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REDUCTION OF FRACTURES AND DISLOCATIONS OF THE LONG BONES

AN APPARATUS FOR OBTAINING GENERAL RELAXATION OF THE SOFT PARTS

ROBERT SOUTTER, M.D.
BOSTON

Reduction of fractures of the long bones (with displacement of the fragments) and the reduction of many dislocations can be accomplished with relative ease if the muscles are first relaxed by traction and countertraction.

Open reduction of difficult fractures is not infrequently necessary but is never justifiable if a non-open operative procedure will obtain satisfactory results. With a piece of single apparatus, such as that described here, many fractures which might have come to open reduction can be reduced by the application of traction and countertraction. The apparatus and the principles to be described make the reduction of all fractures and dislocations of the long bones an easier and more accurate procedure, whether the open or closed method of reduction is used.

The technic is far more important than the apparatus. There is, however, a type of traction not available in all fracture-reducing apparatus; namely, the gradual and rhythmic application of force which may be increased or decreased instantly at the will of the surgeon.

The rhythmic application of force is best applied by double block pulleys on an apparatus with traction and countertraction. I have used this force or traction in the reduction of fractures and congenital dislocations of the hip for more than twenty years. The principle is not new and the development of its use by means of a simple apparatus has interested so many surgeons working for improvement in the treatment of fractures that I am venturing to describe in detail its uses in different types of fractures.

The application of force is necessary in the reduction of fractures. The application of intermittent rhythmic force is more satisfactory than of constant force. The use of definite force gradually increased, with slight relaxation and then increased again, will give relaxed muscles for a short time, which will allow the fracture to be reduced in that relaxation period. With traction applied in this way and for a definite period of time, this loss of tonicity or relaxation may be counted on to last for from five to seven minutes. Force may be reapplied and the time required for obtaining relaxation will be much less at the second application of traction.

Apparatus for the immediate reduction of fractures is not used as generally as it might be, chiefly because some convenient apparatus is not always available or easily transported. Some simple apparatus should be available for use at the bedside as well as in the accident room.

In a hospital equipped with Hawley, Lambote, Albee and other excellent fracture tables, it is easy to use traction for reduction of fractures, but even under these circumstances one is not apt to use the apparatus for the reduction of routine fractures.

CONSTRUCTION OF APPARATUS AND METHOD OF USE

The apparatus that I have devised (figs. 1, 2 and 3) consists of a rod 80 inches long with a right angle bent at one end. At the end of this right angle is a hook and at the other end of the rod is a hook. The rod is made up of several pieces so that it may be taken apart and put in a small case. Each section is about 20 inches long. It is made of tubular steel and not of iron piping, as the latter does not stand the strain. Each tube is fastened to the next by a steel rod which is inserted in the tube. The steel rod should not bend and should be very strong. There are two webbing straps 46 inches long and 3½ inches wide with a heavy steel ring in each end. The webbing should be strong and double and the ring should be stitched solidly so that the stitching will not rip. There is a spring balance that will measure 100 pounds and there are two double block pulleys with heavy cord. These block pulleys are 3 inches long and 1½ inches broad and there are rings for hooks at each end. Unbleached cotton is used for making a Delbet knot. For webbing traction I use heavy webbing 1 inch broad and 5 feet long made of three thicknesses of webbing stitched firmly together. This is applied round the ankle and foot over felt, as described here. The felt used to pad the ankle and foot is 4 inches broad and 20 inches long. The unbleached cotton may be used over the foot and ankle instead of the webbing (described under Delbet knot). The Delbet knot has also been applied to the wrist when it is necessary to apply traction on the forearm.

In applying the webbing over the felt, the felt is put over the achilles tendon above the os calcis, around on each side of the foot and over the dorsum of the foot; the finished bandage is in the form of a figure eight. The webbing is brought up on the outer side of the foot, over the dorsum of the foot, around the inner side of the ankle, the achilles tendon above the os calcis, the outer side of the ankle, the dorsum of the foot down on the inner side of the foot, on the sole of the foot up over the outer side of the foot and hooked through the loop going round the outer side of the ankle. This end is then brought down for traction. The other end, which rests against the outer side of the

foot, is brought under the foot, up on the inner side of the foot, passed through the loop on the inner side of the ankle and then brought down for traction.

In an average adult case, under an anesthetic I am in the habit of using a small amount of traction such as 10 pounds, increasing it in three minutes to 15 pounds and at three minute intervals to 20 or 25 pounds (measured by a spring balance), the maximum pull being maintained for a definite period of from fifteen to thirty minutes, depending on the patient. The maximum in some instances is 15 pounds, in others more.

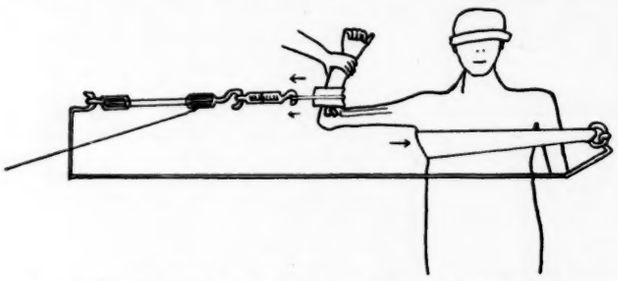

Fig. 1.—Traction on the upper forearm, elbow flexed slightly more than 90 degrees. Countertraction on the chest. The pad and the pull should be as close to the elbow as possible. An assistant maintains the flexion of the elbow.

Manipulation of the fragments into place is accomplished manually, after the steady use of traction and countertraction for the desired time. Some fractures are reduced with the traction maintained, others with traction removed. There is, with such traction, definite muscle relaxation for from five to seven minutes. The time is watched by an assistant. If the fracture cannot be reduced in that time I do not proceed further until the maximum traction has been reapplied for from five to ten minutes, depending on the strength of the muscles. The limb should be held whenever the pull is relaxed. This reapplication of traction for from five to ten minutes will again separate the fragments. A minimum amount of force and very little trauma is necessary to obtain a reduction.

For example, in a supracondylar fracture at the elbow, with displacement outward and slightly backward, a pull of 10, 15 and finally 20 pounds is applied and then held for ten or fifteen minutes, or at the most twenty minutes. The method of pull and counterpull is shown in figure 1. The lower fragment is then brought forward and into place. The reduction is nontraumatic and does not produce more swelling than the fracture has produced and there is no friction of the fragments against each other during reduction. Apposition of the fragments may be obtained more easily under the fluoroscope. The time is noted and if the fracture is not reduced in from five to seven minutes, reapplication of 15 pounds traction should be made for a period of ten minutes and reduction again attempted.

In dislocations of the elbow, traction of from 10 to 15 pounds is maintained after the initial traction with the elbow flexed approximately 90 degrees, while the dislocation is being reduced and the traction released after reduction. The elbow is then completely flexed and then extended about 5 degrees from the full flexion. In all elbow fractures, acute flexion should be the rule and, as Dr. Scudder points out, with the supinated forearm the outer edge of the fifth finger should be parallel to the outer deltoid. This prevents prominence of the upper fragment.

For fractures of the shaft of the humerus, 10 pounds should be used for three minutes, then from 15 to 20 pounds for fifteen or twenty minutes with countertraction on the chest. The muscles are relaxed for five minutes and the fracture may be reduced. Reapplication of traction of from 15 to 20 pounds for five minutes is necessary if the first attempt fails (the method of countertraction is illustrated in figure 1). In fractures of the humerus and elbow, excluding the olecranon fractures, the traction is applied with the elbow flexed slightly more than 90 degrees (fig. 1).

For bones of the forearm, a maximum of 15 pounds, rarely more, will be necessary for fifteen minutes.

In fractures of the forearm, the Delbet knot is applied to the wrist and tied between the thumb and forefinger (fig. 4), and countertraction is applied on the upper arm just above the elbow. The elbow is flexed 90 degrees. A pad, made from a folded pillow case, is placed on the upper arm close to the elbow and 1 inch webbing is placed over this (fig. 4). Traction of 10 pounds to the wrist is applied for from three to four minutes; then 15 pounds for from fifteen to twenty minutes. The reduction is made with the elbow flexed at right angles.

In fractures of the hip, 15 pounds traction is applied. This is increased by 10 or 15 pounds at three minute intervals up to 35 or 40 pounds, and in a heavy, muscular person to 50 or even 100 pounds. This traction is maintained from twenty-five to thirty-five minutes (fig. 2). Reduction of the fracture is then attempted. If successful, full traction is reapplied while the surgeon applies such permanent apparatus as he needs. If he uses the Whitman method, while the traction is at its maximum, the leg is slightly hyperextended and inwardly rotated and then gradually abducted; when it is abducted fully, pressure is made downward on the trochanter and the length of the legs, in the abducted position, is measured. In the old and feeble, traction and ether are necessary for only fifteen minutes or less for the reduction and pressing down on the trochanter. The pull is maintained comfortably after the ether is removed and during the application of the plaster. The short period of anesthesia makes it particularly applicable in these older patients.

In a fracture of the hip or thigh, the counterpull should be put on the opposite leg to the perineum and tuberosity of the ischium (fig. 2), this leg being prevented from abducting by a twisted sheet which encircles the lower end of the femur (fig. 2) and is fastened to the operating table as noted in the illustration. When the lower leg is concerned, countertraction may be applied to the perineum on the same side.

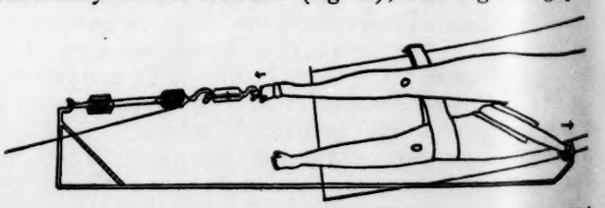

Fig. 2.—Traction at the ankle, countertraction on the opposite thigh and perineum, which is well padded with a folded sheet. Another sheet is applied to the lower femur on the side of countertraction and this sheet is fastened to the operating table preventing abduction of that leg for fractures of the femur and hip. Compare with figure 3.

For traction of the leg, the Delbet knot is used.

DELBET KNOT

In a piece of unbleached cotton 3 feet long and 5 inches wide without a selvage, a longitudinal slit about

3 inches long is made and put over the toes. While the material is on the foot it is torn just enough so that it will slide over the heel and around the ankle. The slit is turned so that each end of the slit is opposite a malleolus. Then the cloth is folded, being doubled in front of the ankle and also behind so that the edges of the folded cloth meet on each side of the ankle at the malleolus. The edges are creased; then while the cloth is folded in this way there will be a double thickness above the os calcis behind and a double thickness over the tarsus in front. The ends are brought down at

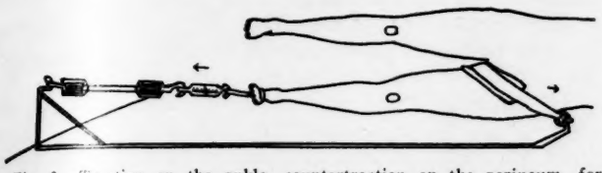

Fig. 3.—Traction on the ankle, countertraction on the perineum, for fractures of the lower leg. Compare with figure 2 for fractures of the femur and hip. A Delbet knot is applied to the ankle or a webbing strap over felt.

each side of the foot and tied under the sole of the foot. The first tie is pulled just as tight as can possibly be pulled under the sole of the foot. The second tie forms a square knot with the first. The knot will then remain on the sole of the foot, and if the cloth has been applied flatly and smoothly it will not excoriate either the heel or the dorsum of the foot. To make a pull on this knot, the two ends are tied again, making a loop below the foot. When the traction is completed, the cloth is cut from the sole of the foot and left on the dorsum or removed entirely by pulling on the cloth until it is released after it has been cut.

In applying the Delbet knot to the wrist, the slit is made in the same way. After the hand has been passed through the slit in the cloth, the ends of the slit are turned so that one is on the palmar and the other on the dorsal surface of the wrist. The cloth on the outer aspect of the wrist at the base of the first metacarpal is folded double and creased. The two ends of the cloth are then brought together and tied as tightly as possible at the base of the thumb between the thumb and the forefinger. The first tie is pulled as tight as possible and the second tie forms a square knot with the first. The two ends of the cloth are then tied together, making a loop to which traction may be applied.

In applying the Delbet knot, the surfaces of the cloth that are doubled and are in contact with the skin should be laid smoothly before tying and they should be applied in such a way that the pull will be even on the cloth. This is done by gathering in each end of the cloth before tying in such a way that the surface in contact with the skin will lie smoothly even when the tie is made.

The unbleached cotton should be strong and folded double as described in order to prevent tearing. It is a good precaution to have a second or third piece of unbleached cotton ready in case one is defective for any reason. When carefully applied it is almost never necessary to remove the knot and apply it a second time. If it is not smooth it should be reapplied.

When an open operation is necessary near the wrist or near the ankle, the unbleached cotton may be sterilized before being applied, but the skin where the pull is to be applied should be sterilized with a non-irritating solution—not iodine. When from 40 to 100 pounds is necessary, it is better to use a strip of felt 3 inches wide, 1 inch thick and long enough to wind round the ankle and tarsus (about 26 inches long). Over this is tied one of the common ankle knots for making traction on the leg. The webbing should be 1 inch wide and of three thicknesses. The three pieces should be stitched together so that it will be strong and not break readily with traction. Two thicknesses of ordinary webbing will sometimes tear with a traction of 50 pounds.

For an adult lower end of the femur, traction should be started with 15 pounds for three minutes, increased to 20 pounds for three minutes and from 25 to 50 pounds for one-half hour, followed by manipulation with a 10 pound pull or without pull. There is relaxation of the thigh muscles for from five to seven minutes. The skin will not stand the pull. A gaiter legging or a Delbet knot may be used on the ankle for the traction. Reapplication of 20 pounds for ten minutes will be necessary if reduction is not accomplished in seven minutes. The hip and upper femur are treated in the same way but the maximum pull in a heavy or muscular person must be more—from 55 to 100 pounds, starting with 10 pounds as described.

In a fractured femur, during the half-hour traction, the permanent bed apparatus is being fitted to the leg. After reduction, coaptation splints are applied extremely tight with the maximum pull on. These will hold the bones in place and thoroughly mold the muscles so that not only the surface but also the deep muscles are compressed. After all apparatus is in place and 10 or 12 pounds pull has been applied to the skin traction, if skin traction is used, the traction on the ankle is removed and the coaptation splints are loosened to the desired tension and adjusted daily as the swelling decreases. When the bed apparatus is completely in place, only about 10 pounds will be needed. An assistant should steady the limb constantly during the application of the apparatus and until the permanent fracture dressing is completed.

If a Thomas splint is to be used, the ring should be applied either over the foot or over the traction band, then below the foot and turned out of the way while the traction apparatus is being used. Later it is slid up the leg and thigh without disturbing the traction.

For an adult lower leg, traction should be started with 15 pounds for three minutes, 20 pounds for three minutes and from 25 to 30 pounds for half an hour. More traction may be used if necessary but it is rarely needed (fig. 3).

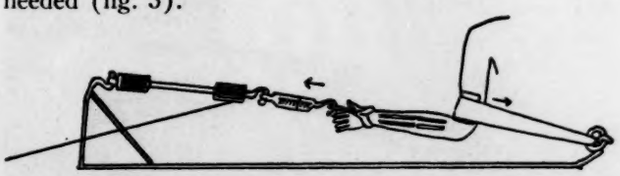

Fig. 4.—Fractures of the forearm; Delbet knot on the wrist. Countertraction with the elbow flexed at right angles. A folded pillow case is put under the webbing strap above the elbow.

The amount of traction used for the arm or leg and the length of time for the application of the maximum traction is here given for recent fractures:

In a child from 5 to 9 years with a fracture of the femur, 10 pounds increased to 15 or 20 pounds for from ten to twenty minutes will often be sufficient, depending on the muscular condition.

For a fracture of the lower leg in a child, 10 pounds increased to 15 pounds may be used for twenty minutes, depending on the muscular condition.

The amount of traction, with countertraction, that is necessary for the different fractures of the arm or leg

varies with the fractures, the age and the muscular development of the individual.

Great care should be observed in padding the skin where the pull is applied; a folded pillow case should be used for the arm and a folded full sheet for the perineum. The broad canvas straps at the groin and perineum should not rest on the skin. The ankle should be protected with felt 1 inch thick before the inch webbing straps are applied.

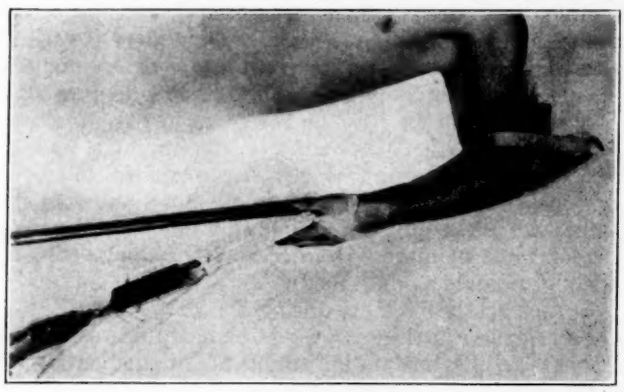

Fig. 5.—Traction on upper arm; countertraction on wrist by means of Delbet knot.

When the surgeon is familiar with the method, it is not necessary to follow the rules laid down here, but this may be used as a guide and will be found fairly satisfactory.

The higher the fracture, the more weight is necessary. In open operations for old fractures and in recent fractures, the same method is applicable. The apparatus has been so satisfactory and simple that I will gladly send the dimensions so that it may be copied by any one who is interested. More than thirty of these have been used by surgeons in different parts of the country with satisfaction.

Fig. 6.—Traction on the upper forearm; countertraction on the chest.

A great deal of pull is sometimes necessary for a short period and it is better to have slightly more strength than will actually be required.

Emphasis should be laid on the method of use. One starts with a small amount of traction for a short period, gradually increased in a rhythmic way to the maximum that is necessary. This is maintained for from fifteen to thirty minutes. Following this, there is a relaxed condition of the muscles for from five to seven minutes. The fracture should be reduced in this time with or without traction. An assistant watches the minutes. If reduction is not obtained in from five to seven minutes, reapplication of traction to the maximum weight used for that fracture is maintained for ten minutes. The traction is measured by a spring balance. The apparatus is strong and light and will not require especially trained assistants.

The difficulty with this apparatus is not so much the replacement of the fractures but the ability to wait patiently the full length of time by a clock before manipulating the fracture.

The method of the treatment of fractures has been omitted purposely in this article, it varies so much with the fracture and the discretion of the surgeon.

In handling a fracture and in the attempts at reduction, a gradually applied pull and counterpull under perfect control allows the fragments to be placed in apposition with comparatively little force and very little trauma.

Some complicated fractures cannot be reduced by any apparatus. While this apparatus simplifies the reduction of ordinary fractures, many fractures that could not be reduced by the usual methods of reduction in skilled hands have been reduced by this apparatus with comparative ease.

By this method not only are fractures more perfectly reduced in a short time and many open operations avoided, but there is less difficulty in obtaining a satisfactory end-to-end reduction.

253 Newbury Street.

PLEUROPULMONARY BEHAVIOR IN OPEN PNEUMOTHORAX

A SIMPLE DEMONSTRATION FOR PHYSICIANS AND SURGEONS *

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NEW YORK

An eminent surgeon has recently described one of the many ways of draining an empyema of the thorax by valve action. He graphically illustrates the advantages of this method and shows how "on inspiration the cavity tends to become emptied of its contents, purulent material and air," and how "with the collapse of the chest on expiration the flap is sucked into the hole and prevents the entrance of air." It is quite possible that this was merely an example of inaccuracy in proof reading; yet when the matter was presented to a number of medical men and surgeons the same misunderstanding of the physics of respiration was manifest. Nor was it a simple task to make clear the fact that it is not the lungs which move the chest wall, but that the expanding thorax fills the lungs, which in turn collapse when the ribs return to the position of rest. There is, to be sure, a very slight essential pulmonic expansion and even contraction, but this is so insignificant that it does not form an appreciable factor in the function of breathing.

In order to make the conditions clear to what may be called the lay-professional mind, I will present a few diagrammatic drawings in which an elastic rubber ball shall represent a hemithorax and in which a rubber tube from an opening in the ball shall represent the tracheobronchial passages opening into the world.

* Read before the Metropolitan Medical Society, Feb. 25, 1930.

For the present the lung may be disregarded because even though in disease it may not be fully distensible it always has a certain greater or less amplitude of expansion.

In these demonstrations the elasticity of the rubber ball tends to keep its capacity as great as possible, thus taking the place of the expanding ribs in respiration; while the fingers which compress the rubber ball imitate the compression of the ribs and the rising of the diaphragm in expiration. I shall present also other diagrams which I trust will make clear the action of respiratory exercises on a collapsed lung, by air forced into it from its normal fellow.

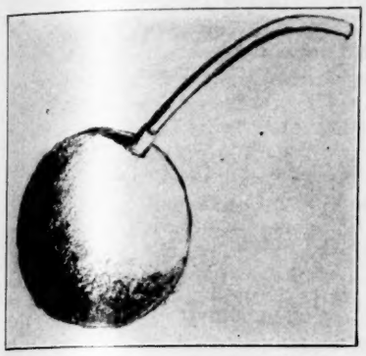

Fig. 1.—Elastic rubber ball used to represent a hemithorax, with a rubber tube inserted into an opening to represent the tracheobronchial passages opening into the world.

Figure 1 represents a ball which contains a little talcum powder to visualize the air current.

Figure 2 shows what happens when the ball is smartly compressed. If the tube is shut off and pressure is made, it is evident that the air in all parts of the ball, as well as that in the tube, is under equal pneumatic pressure. If the tube is not obstructed air is, of course, forced out of the opening and the powder can be seen escaping.

If a little triangular opening is cut in the side of the ball, the base of the triangle being left attached (fig. 3), it will be seen that, on compression, powder is blown from this orifice as well as from the tube. If the hole in the side of the ball is exactly the same size as the lumen of the tube, equal quantities of powder will escape from the two openings. When the compression on the ball is released, it tends to assume its normal spherical shape, drawing air in through the tube (inspiration). At the same time the current of air that is being sucked in through the little incision will tend to draw the triangular flap against the opening, closing it as by a valve.

Fig. 2.—Effect of compression on ball when tube is unobstructed, showing escape of air as represented by talcum powder.

In short, then, with every squeeze on the ball (expiration) air rushes out of both openings; but with every expansion of the ball (inspiration) air enters through the tube alone, while the same suction causes the flap to close the opening in the side. If several holes are made in the ball, air will enter through all of them on the release of compression.

Figure 4 represents a model of the entire pleuropulmonary thorax. The left unit, *A*, shows a hemithorax with a rubber tube, *G*, entering through a hole in its wall. This tube is attached to a very soft thin rubber balloon, *E*, which is held against the "chest wall" by negative pressure as the lung is held in a natural thorax; it almost fills the entire space, as is indicated by the dotted line.

The unit *B* shows the same parts as *A*, but there is an opening in the "chest wall" at *D*. It is clear that, since the space *H'* is in free communication with the outer world through *D*, there is no negative pressure and the balloon, *F*, is partly collapsed. *C* is a glass Y tube representing the trachea with its two bronchial branches, which are attached to the rubber tubes *G* and *G'*.

It is evident that, if the ball in *A* is compressed, most of the air will escape through *G* and *C*, a little entering *F*, from which, on release of pressure, it is again expelled through *G'* and *C*, leaving *F* flaccid.

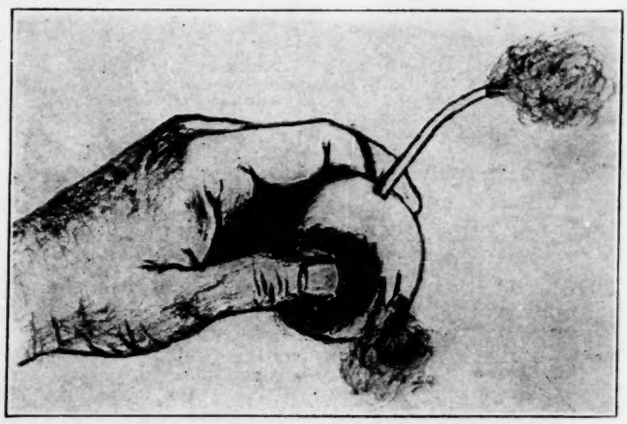

Fig. 3.—Result of compression when hole has been cut in side of ball, showing escape of powder from opening and tube.

If the opening *D* is plugged and sharp pressure is made on *A*, *F* will expand, compressing the air in the space *H'*, which is, of course, released as soon as *F* is emptied through its tube or the plug is removed from *D*. If the outlet of *C* but not of *D* is plugged while pressure is being made on *A*, obviously the pressure is transmitted to *F*, expanding this sac, which will remain expanded until the "trachea" (*C*) is again free, when it will return to its collapsed state. If, however, the opening *D* is once more closed before the opening of *C* is freed, *F* will remain partly expanded.

Figure 5 is the same as figure 4, except that a tube *K*, with a rubber bag-valve *L*, is attached to the opening *D*. I have employed the usual finger-cot valve for this illustration, but in experimenting with balls of such small size the elasticity is not powerful enough to close this valve and Kenyon's water-seal is more certain. In the human chest, either may be used. *J* is a celluloid window which permits direct observation of the motions of the "lung."

On compression of the "healthy" ball the lung *F'* is partly inflated, driving air from *H'* out through the valve; on release of pressure the valve closes and *F'* does not collapse as far as it would if there were no valve. Repeated forcible compressions of the healthy side drive more and more air out of *H'* by further expanding *F'*, until at last the bag *F'* touches

the wall of its containing sphere. If a cork, *M*, is used to close the opening in the trachea, *C'*, and the "healthy" ball is compressed, there will, of course, be a much greater expansion of *F'* than if part of the air were expelled through the open trachea. The corking of the trachea by *M* is analogous to the closing of the

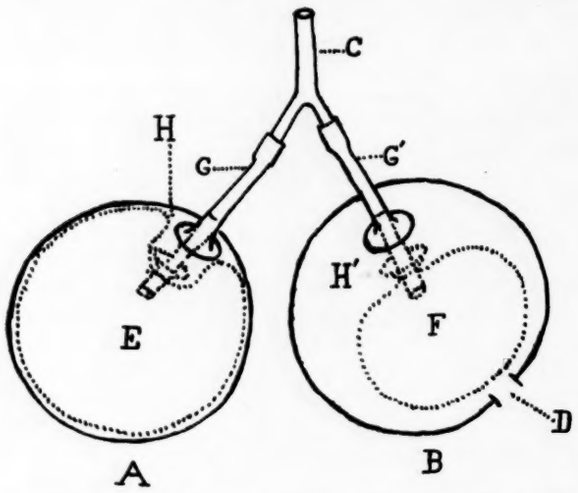

Fig. 4.—Model of the entire pleuropulmonary thorax. The respiratory motions of chest wall, *B*, in figures 4 and 5 are omitted for the sake of simplicity.

glottis in straining or coughing and this produces a more rapid and forcible expansion of the lung (*F'*). When the cork is removed so as to permit the ball *A* to resume its spherical form, the lung *F'* does not collapse because it is held in expansion by the suction or negative pressure in *H'*.[1]

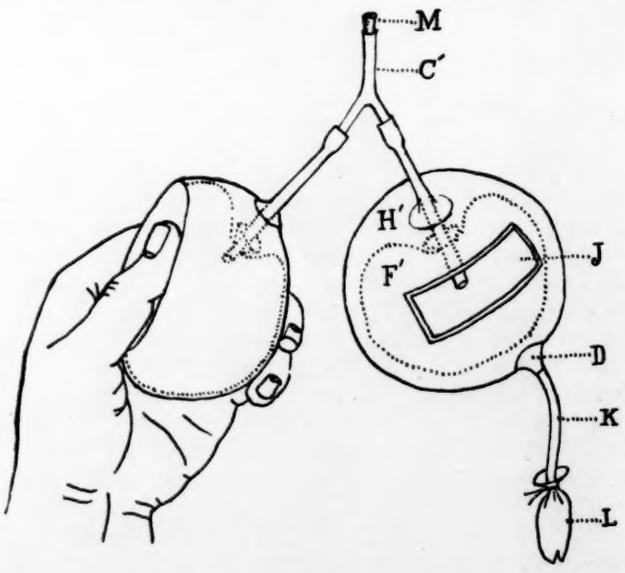

Fig. 5.—Model of the pleuropulmonary thorax with the addition of the valve tube *K* attached to the opening *D*. The diagram shows the effect of compression on the healthy lung.

An appreciation of the principles discussed here is of great importance in the surgery of empyema and, in fact, in thoracic surgery as a whole. A clear understanding of the conditions is necessary if one is to do intelligent work in the operative diseases of the chest. Physicians, too, should become as familiar with the physics of thoracic conditions as they are with the physics of the abdomen and its contents.

The mechanical principles illustrated by the drawings and diagrams have been demonstrated by me many times both at operation and by fluoroscopy, and they generally are recognized by thoracic surgeons and by phthisiologists.

I almost feel like apologizing for this little essay. It is presented in the hope of popularizing the information which it contains. Those who are interested in the subject should read the paper twice.

52 East Eighty-Second Street.

1. I have not mentioned anything about the motion of the mediastinum in pneumothorax, nor is it necessary in studying the present question. It is described by Lilienthal, Howard; and Amberson, J. B., Jr.: Unilateral Pneumothorax, Arch. Surg. **18**: 533 (Jan., pt. 2) 1929.

CHONDROMA OF INTERVERTEBRAL DISK*

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CHICAGO

It is doubtful whether chondroma of the intervertebral disk, as originally described by Stookey,[1] is as rare as a review of the literature would indicate. The first reference to this condition to be found in the literature is by Adson,[2] who briefly mentioned one case with involvement of the cervical region; but the first detailed study was published in 1928 by Stookey, who reported seven cases, all arising in the cervical region. A year later von Péchy [3] reported one arising in the thoracic region, thus making a total of nine cases. Inquiry of Dr. A. W. Adson [4] reveals that he has since then seen at least three other cases, probably more. One of these arose in the thoracic region and one involved the cauda equina. Dr. Max M. Peet [5] informs me that he has had "at least three cases" of this type, one each in the cervical, the lower dorsal and the lumbar regions. Thus, with the present example, at least sixteen cases are known, all of which have appeared in the last few years. However, it is only logical to assume that there have been a great many cases in the past which have been overlooked and probably the same is true at present.

The case presented here, of a lesion in the lumbar region, is additional evidence that this condition is not limited to the cervical region but may be found in any portion of the spinal column. Of the sixteen cases, nine arose in the cervical, three in the thoracic and three in the lumbar region. I have no data relative to the other case.

REPORT OF CASE

Syndrome of involvement of the cauda equina. Partial block of the cerebrospinal fluid. Localization with iodized oil. Laminectomy. Removal of chondroma. Recovery.

History.—H. S., a Jewish junk dealer, aged 47, referred to the University Clinics by Drs. D. B. Rotman and Peter Bassoe of Chicago, was admitted, July 3, 1929, with a complaint of difficulty in walking and pain in the back and down the posterior aspects of both legs. He stated that three or four years before he had had a severe pain in the lower part of the back and had consulted a physician, who made a diagnosis of sacro-iliac strain and advised the patient to wear

* From the Department of Surgery, University of Chicago.

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3. Von Péchy, K.: Zur Kenntnis der gutartigen wirbelsäulengeschwülste im Wirbelkanal, Frankfurt Ztschr. f. Path. **37**: 562-567, 1929.
4. Adson, A. W.: Personal communication to the author, Oct. 24, 1929.
5. Peet, M. M.: Personal communication to the author, Oct. 21, 1929.

a sacro-iliac belt. He did this and the pain subsided in about a week. During the following three years he had similar attacks, about six times a year. With each attack he would again wear the belt and the pain always subsided in two or three days. He was entirely free from pain during the winter of 1928-1929 until April 25, 1929, when it again recurred. The following day it was more severe and for the first time was associated with pains down the posterior aspects of both lower extremities. April 27, while lifting a heavy piece of iron, the patient suddenly suffered from a severe pain in the back and legs which caused him to fall. He was unable to move on account of the pain and was carried home. The following week he was hardly able to move because of the severe pain that resulted. Two weeks prior to his admission to the University Clinics he entered the Presbyterian Hospital. While there three lumbar punctures were performed. These greatly aggravated his symptoms.

Examination.—The general physical examination was essentially negative. Sensory examination revealed a hypesthesia to painful and tactile stimuli in the lower extremities, mainly over the posterior aspects. However, no definite level could be determined. No alteration of response to thermal stimuli could be detected. The patient's station was normal. His gait was slow and he was obviously holding his lower extremities tense to protect himself from the extreme pain which motion elicited. There was a definite weakness of the flexors of the left knee; all other muscle groups were strong and equal. Percussion of the lumbar spine elicited coarse myoclonic twitching of the muscles of the posterior aspect of the right thigh and of the right leg. There was mild tenderness to pressure over the fourth lumbar spine. Laségue's sign was positive on the left side. The sciatic nerves were not tender to pressure. The abdominal and cremasteric reflexes were distinctly hyperactive, as were the patellar and achilles tendon reflexes, the right being slightly more marked than the left. Babinski's sign was absent. There was no disturbance of urination.

A lumbar puncture was performed. It was impossible to obtain any spinal fluid at the third to fourth interspace. (This was also the experience of Drs. Rotman and Bassoe.) The needle was therefore inserted between the fourth and fifth vertebrae. The initial pressure was 120 mm. of fluid. On jugular compression it rose slowly to 300 mm. and when the compression was released it fell slowly to 180 mm., thus indicating a partial block of the cerebrospinal fluid. About 3 cc. of clear, colorless fluid was obtained and 1.5 cc. of iodized oil was injected. The patient then was examined under the fluoroscope on the tilting table. The iodized oil descended normally into the sacral sac, but with the patient's position reversed and his head down it would not pass beyond the fourth lumbar vertebra. Examination of the cerebrospinal fluid revealed 198.5 mg. of protein per hundred cubic centimeters of fluid. The Wassermann tests on both the blood and the spinal fluid were negative.

Operation.—July 6, a laminectomy was performed by Dr. Percival Bailey. At first the laminae of only the fourth and fifth lumbar vertebrae were removed. At this level the roots of the cauda equina were markedly inflamed and there was no evidence of pulsation. The laminae of the second and third lumbar vertebrae were then removed and on incision of the dura mater at this level the caudal roots at the level of the junction of the third and fourth lumbar vertebrae herniated out of the dural incision. Above this point the roots were normal in appearance and there was normal pulsation of the cerebrospinal fluid. The roots were then dislocated backward, revealing a smooth elevation of the dura mater, which lay to the left of the midline. The dura mater was incised over the elevation, revealing a yellowish rubbery tumor about 1 cm. in length and projecting backward about 0.5 cm. into the spinal canal. This tumor was firmly attached to the intervertebral disk lying between the third and fourth lumbar vertebrae. It was removed in pieces with a curet.

Course.—Following the operation it was necessary to catheterize the patient for three days. Otherwise he made a rapid and uneventful recovery. When discharged, July 24, eighteen days after the operation, his gait was greatly improved and he was able to stand on either foot alone. Most important of all, he was free from pain, both while quiet and in motion. Sensation was normal. The tendon reflexes were still somewhat hyperactive.

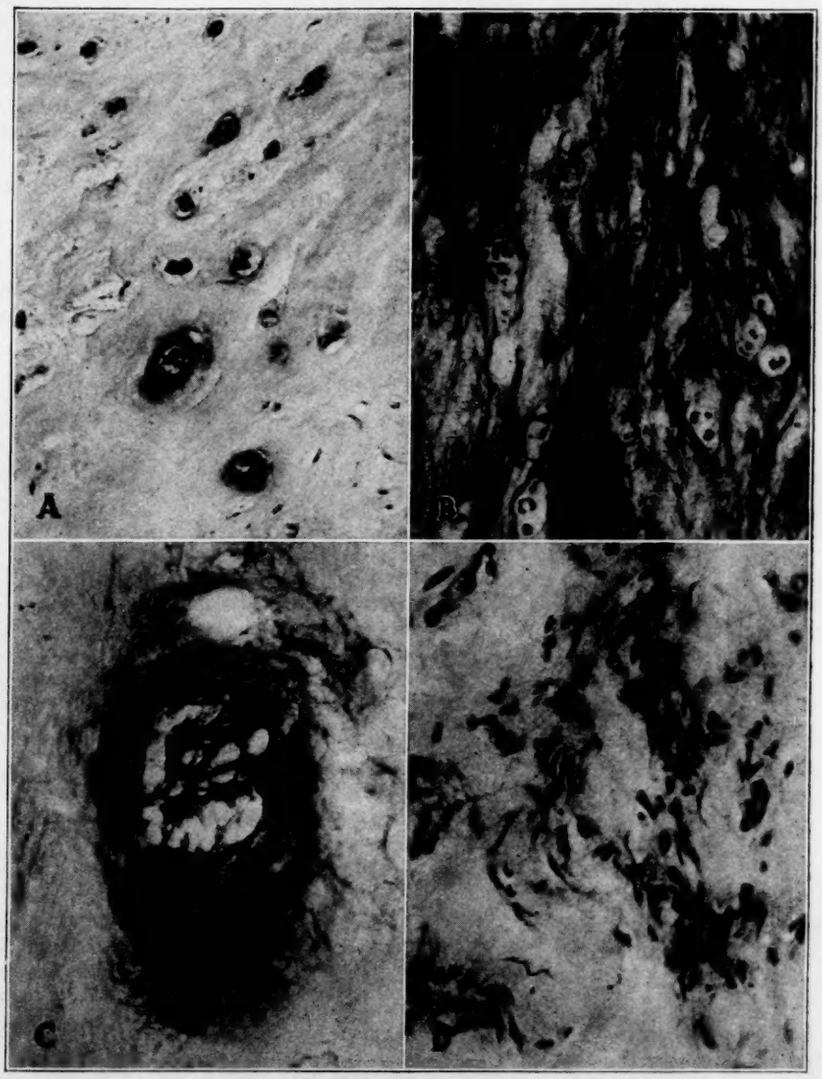

Fig. 1.—Chondroma of intervertebral disk: *A*, appearance of tumor, showing multinucleated and vacuolated cells; hematoxylin and eosin (× 100). *B*, similar area showing numerous collagenic fibers; Van Gieson's stain (× 100). *C*, large multinucleated and vacuolated cell: hematoxylin and eosin (× 560). *D*, fibroblasts in another portion of the tumor (× 300).

He was last seen, October 15. At that time his station and gait were perfectly normal, and he had no complaints except for an occasional slight pain in the back on overexertion.

Microscopic Description.—Histologic examination of the specimen removed at operation revealed a chondroma composed of fibrocartilage (fig. 1). There were marked variations in the histologic picture in different areas. Everywhere the cells were irregularly arranged. They varied greatly in size.

There were many spindle and stellate shaped cells of obviously fibroblastic nature. These were accumulated in small groups, which were scattered irregularly through the specimen (fig. 1 *D*). The cartilaginous cells also varied greatly in size and number. Many were small mononuclear cells with a variable amount of cytoplasm. Others were large mononuclear or multinuclear cells with a large amount of cytoplasm containing many vacuoles—the physaliden of Virchow (fig. 1 *C*). The proportion of cells to matrix also varied greatly. In some regions a large amount of matrix and few cells were found. Elsewhere the cells, especially of the fibroblastic type, were closely crowded together. Specific strains for collagenic fibrils revealed them in large quantities (fig. 1 *B*), especially in the regions where chondral cells were found.

COMMENT

Clinically this patient presented a rather typical picture of involvement of the caudal roots which need not be discussed here. Careful examination revealed no evidence of other chondromas.

It is noteworthy that no specific trauma is related to the onset of this condition although the lifting of a heavy body seems to have greatly aggravated the last attack. However, the patient was a junk dealer and supposedly his vertebral column must have been subjected to frequent strain from the lifting of heavy objects. It has long been considered that there is a definite relationship between the formation of chondromas and injury. However, as the pathologic picture indicates, the lesion is in no wise a purely mechanical phenomenon but a true new growth from the intervertebral disk—as von Péchy chooses to call it, an ecchondrosis. Certainly careful microscopic examination leaves no doubt that this lesion is in no wise related to the condition in various joints of the body known as osteochondritis dissecans. Dandy [6] has recently reported two cases which he considered bore some resemblance to the latter condition. They differed from the type of case reported here in that the nodule of cartilage was detached from the intervertebral disk and on microscopic examination appeared to be degenerating fibrocartilage rather than cartilaginous new growths. This has not been true of any other known cases, in all of which the neoplasm was firmly attached to the intervertebral disk.

Fig. 2.—Chondroma of intervertebral disk shown in sagittal section with vertebrae above and below at left and cartilaginous disk between. The tumor can be seen arising from the disk and projecting into the spinal canal (after von Péchy).

Microscopically the structure is that of a fibrochondroma. The great variation in type and distribution of the cells, and the presence of immature cells of a fibroblastic nature, and of multinucleated and vacuolated cartilaginous cells, is typical of this condition. It is interesting that all of these lesions of which there is any information concerning the microscopic appearance are fibrochondromas, a type of lesion rare in other parts of the body. The tumor in this case was a pure cartilaginous neoplasm. So far as I am aware, all of the other cases reported in the literature except that of von Péchy are similar. In his case bone also was found, an osteochondroma.

The lesion is a small nodular tumor which arises from the posterior margin of the intervertebral disk and projects backward into the spinal canal. This is beautifully shown in figure 2, taken from von Péchy's article. These tumors are not to be confused with the rather numerous instances of chondromas arising from the vertebrae themselves. These may extend into the spinal canal and compress the spinal cord (Hannemann,[7] Valentin,[8] May [9]) or may lie in the paravertebral tissues (Föderl,[10] Desjacques [11]). A rather thorough review of the literature prior to 1913 will be found in the article by Valentin. Holm [12] has recently written on this subject.[13]

PROGNOSIS

In one of Adson's cases there were two recurrences. I do not know of any other cases in which the recovery has not been permanent following excision of the tumor.

SUMMARY

In the case presented here a fibrochondroma arose from the intervertebral disk between the third and fourth lumbar vertebrae and compressed the cauda equina. Following removal the patient has had almost complete relief from symptoms. Microscopically the tumor was a typical cartilaginous neoplasm.

950 East Fifty-Ninth Street.

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10. Föderl, O.: Enchondrom der Halswirbelsäule, Deutsche Ztschr. f. Chir. **45**: 154-159, 1897.

11. Desjacques, R.: A propos d'un cas de chondrome de la colonne cervicale, Lyon chir. **24**: 40-43 (Jan.-Feb.) 1927.

12. Holm, H.: Ueber Wirbeltumoren, Deutsche Ztschr. f. Chir. **208**: 46-58, 1928

13. Alajouanine and Petit-Dutaillis (Bull. et. mém. Soc. nat. de chir. **55**: 937-945, 1929) have recently described two other cases. One, a fibrochondroma, arose from the third lumbar intervertebral disk in a man, aged 60, and the other, an osteofibrochondroma, arose from the intervertebral disk between the fourth and fifth lumbar vertebrae in a woman, aged 46.

The Two Types of Food Poisoning.—The scientific worker generally recognizes two types of food poisoning. One type is due to the contamination of the food with paratyphoid-enteritidis group or other bacterial organisms, either through the agency of a human or animal carrier or from the meat of an animal suffering from a specific infection with these germs. Subsequent incubation of the contaminated food through improper and insufficient cooking, refrigeration or storage, allows the bacteria to secrete, in their growth, a poisonous product, or, perhaps in the process of heating, certain products become soluble and evidently poisonous. The consumption of such food is followed within several hours by symptoms of nausea, abdominal pain, vomiting, prostration, diarrhea, and perhaps fever. Complete recovery within forty-eight hours is the rule. The other type of food poisoning is known as botulism. It is due to the contamination of the food with a specific bacterium known generally as *Bacillus botulinus*. . . . It is regrettable that home-canning methods antedate the present-day knowledge of botulism and that, with a few exceptions, no effort has been made to correct them. Only boiling for a sufficient length of time after removal from the glass jar or can before being served will make home-canned foods reasonably safe.—Geiger, J. C.: Food Poisoning, *California & West. Med.*, November, 1929.

CORONARY THROMBOSIS

REPORT OF TWO CASES WITH ELECTROCARDIOGRAPHIC LOCALIZATION OF THE THROMBUS IN THE RIGHT OR LEFT CORONARY ARTERIES *

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AND
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The diagnosis of coronary thrombosis should not be difficult if the condition is kept in mind. The history of angina, the presence of shock, the gradual diminution in the strength of the heart sounds, the presence of arrhythmia, the signs of congestion at the bases of the lungs, an elevation in the number of leukocytes and a low blood pressure form a well defined clinical syndrome. In America, Herrick,[1] Smith [2] and Levine [3] have made important contributions to the study of coronary thrombosis, and it is a tribute to their work that a senior medical student can make the diagnosis at the bedside. We are reporting two cases of coronary thrombosis. Both patients recovered, one in spite of complete heart block, a superimposed insult which is generally regarded of more than grave prognosis. We therefore feel justified in stressing the point that prompt diagnosis is of more than academic import, for the immediate institution of treatment designed to spare the myocardium will in a good many cases be rewarded with recovery. Finally we are able to submit electrocardiographic observations which we think will make it possible to localize the thrombosis in either the right or the left coronary vessel.

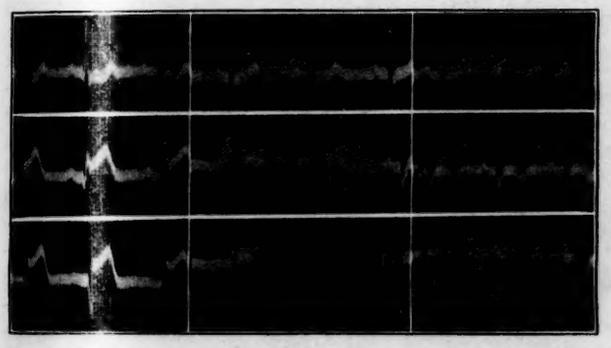

Fig. 1 (case 1).—Electrocardiographic records obtained: *A*, six hours after the attack; *B*, eighteen hours after the attack; *C*, on discharge, which is practically identical with that obtained three months later.

REPORT OF CASES

CASE 1.—M. P., a middle aged man, had a sudden feeling of substernal constriction and dyspnea while ascending the subway stairs. After a few minutes he continued on his way to work. He worked three hours and then had a sudden feeling of pressure below the sternum which radiated down both arms and was only slightly relieved by two injections of morphine. The past history was irrelevant; the family history was one of long life.

On physical examination the patient appeared to be in acute pain. The rectal temperature was 98. The chest was barrel shaped; the apex beat was neither visible nor palpable; the left border of cardiac dulness was not determinable, and the heart sounds were loud (two hours later the heart sounds could barely be heard and they remained feeble and distant the next four days). There were many extrasystoles with brief runs of coupled beats; the radial pulse was full and easily compressed. The blood pressure was 116 systolic and 80 diastolic. Many moist râles were heard at both bases. The leukocytes numbered 16,600, with 84 per cent polymorphonuclears.

A diagnosis of coronary thrombosis was made. On the fifth day after admission, a pericardial friction rub was heard. The friction rub was present for twenty-four hours. Following this, the patient developed paroxysmal tachycardia, which lasted for forty-eight hours, during which time he was digitalized. From this point on, convalescence was uneventful. Three months after the attack he was back at his old job and except for an occasional attack of dyspnea precipitated by unusual effort, he was quite well. On discharge the blood pressure was 130 systolic and 90 diastolic and three months after the thrombosis, the blood pressure reading was unchanged.

Figure 1 *A* is the electrocardiogram made six hours after the acute attack. Lead 1 was not strikingly abnormal, showing the R-T interval slightly below the zero level. Leads 2 and 3 showed a T wave that took its origin from the descending limb of the R wave well above the iso-electric level. Eighteen hours after the acute episode (fig. 1 *B*) the T waves in leads 2 and 3 were inverted and sharply peaked, and the S-T interval had an upward convexity which carried it above the zero level. Lead 1 was now quite normal in appearance. The electrocardiogram retained this form on discharge, except that the R-T interval ceased to be above the zero level (fig. 1 *C*). Later, we shall attempt to point out the significance of the inverted T waves in the various leads.

CASE 2.—W. G., a middle aged man, for three days prior to admission was conscious of a heavy weight resting on the epigastrium. On the day of admission, he experienced a sudden attack of syncope. When he recovered, about ten minutes later, he complained of severe constricting pain below the midsternum which radiated to both shoulders. The past history was irrelevant; the family history was conspicuous for the longevity of its members.

On physical examination the patient was in a state of shock. Respirations were audible; the pulse rate was 30 a minute, and the rectal temperature was 96.6. The skin was cold and moist, with diffuse ashen cyanosis; the forehead was covered with beads of cold perspiration. The apex beat was neither palpable nor visible; the left border of cardiac dulness was percussed in the fifth left interspace 11 cm. from the midsternal line; the heart sounds were faint (about fifteen minutes later, the heart sounds could not be heard) and there were no murmurs; the pulses were small but regular and slow, and the walls of the blood vessels were not unduly thickened for the age. The blood pressure was 100 systolic and 56 diastolic. Many moist râles were heard at both bases. Leukocytes numbered 25,500, with 86 per cent polymorphonuclears.

A diagnosis of coronary thrombosis with complete heart block was made, and 100 cc. of 50 per cent dextrose was given intravenously. A coffee enema containing a theophylline ethylenediamine preparation was given, and morphine was used unsparingly. He spent a restless night. Periods of Cheyne-Stokes respiration were prominent. The pulse was palpable for a few beats at long intervals apart. The heart sounds were inaudible. Another injection of dextrose was given and then, because of the difficulty in getting into the patient's veins, dextrose injections were discontinued. On the following day paroxysms of Adams-Stokes attacks appeared. The manner in which the Adams-Stokes attacks occurred was unusual in that each paroxysm was made up of from five to twelve brief convulsive seizures following one another in rapid succession. The paroxysms were separated from each other by a variable length of time. Epinephrine was successful in reducing the number of attacks in any one paroxysm but did not prevent new paroxysms from reappearing. Barium chloride in 2 grain (0.13 Gm.) doses at four hour intervals was then given and after the first dose the epileptiform seizures did not recur. Improvement was now rapid. The temperature gradually fell from 101.2 and reached normal on the third day. On the

* From the Second Medical Division, New York Hospital.

1. Herrick, J. B.: Clinical Features of the Sudden Obstruction of the Coronary Arteries, J. A. M. A. **59**: 2015 (Dec. 7) 1912.
2. Smith, F. M.: The Ligation of the Coronary Arteries with Electrocardiographic Studies, Arch. Int. Med. **22**: 8 (July) 1918.
3. Levine, S. A.: Coronary Thrombosis: Its Various Clinical Features, Medicine **8**: 296 (Sept.) 1929.

ninth day the pulse reached 60 and remained above 60 from then on. The heart sounds became audible on the third day and on the sixth day were strong. On discharge, the patient had a pulse rate of 78 and a systolic pressure of 110; the heart was somewhat enlarged radiographically and he was able to walk about the ward without shortness of breath. Eight weeks later he was walking 3 miles at his usual speed without any discomfort.

An electrocardiogram taken within six hours of the acute attack (fig. 2*A*) showed the R-T interval below zero in lead 1 and above it in leads 2 and 3; the T wave was prolonged and complete heart block was present. Successive records showed an approach of the R-T interval to zero (fig. 2*B*) and the development of a downward T in leads 2 and 3, while the complete heart block gave place to less marked grades of block, roughly a 2 to 1 block, with a gradual progressive prolongation of the P-R intervals and dropped beats (fig. 2*C*) until normal auriculoventricular conduction time appeared. Figure 2*B* was taken on the fifth day after the onset, figure 2*C* on the thirteenth day. The ventricular complexes retained the form seen in figure 6 eight weeks after the attack. The auriculoventricular conduction was normal at this time, the P-R interval measuring 0-.16 second.

COMMENT

Both patients were men and belonged to the hard working middle class. Both were below the average height, somewhat overweight robust types, free from any venereal infections or unusual thickening of the accessible blood vessels. There was no knowledge of a previously existing hypertension. Both had warning of the imminent attack.

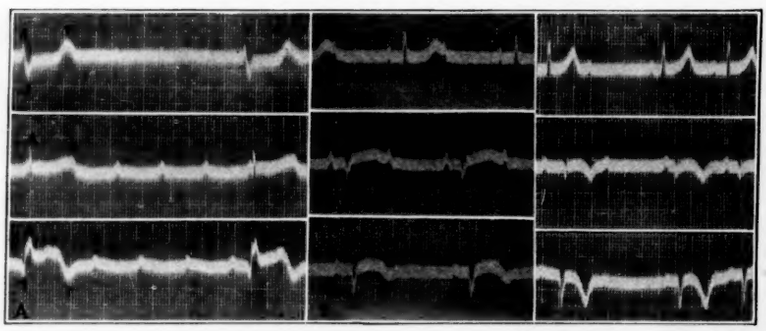

Fig. 2 (case 2).—Electrocardiographic records obtained: *A*, six hours after the attack; *B*, on the fifth day after the attack; *C*, on the thirteenth day after the attack. Six weeks later the ventricular complexes were practically identical with those of this record.

The clinical course showed several points worthy of emphasis, particularly the ready control of the Adams-Stokes attacks with barium chloride. Though 8 grains (0.5 Gm.) a day is a large dose, we did not note any ill effects from its use. The benefit obtained was so prompt that were it not for the experience of others [4] we might have considered the effect a post hoc ergo propter hoc relation. Our attempt to use dextrose intravenously was unsuccessful and yet, so far as the method offers a ready means of supplying food to the heart muscle, it seems worthy of use. Certainly it has an excellent experimental basis. We digitalized our first patient when he developed paroxysmal tachycardia. Except for such an event or for evidence of congestive heart failure, we feel that the use of digitalis is not indicated in coronary thrombosis and may in some instances be harmful.[3]

The one pathognomonic sign of coronary thrombosis in these cases is the change in the structure of the T wave in the electrocardiogram. Smith [2] in his work on the ligation of the coronary vessels in dogs showed that ligation is followed by changes in the origin and potential of the T wave. One of us described these alterations in the T wave as they are encountered in the human subject following both an acute closure [5] and a chronic narrowing [6] of the lumen of the coronary vessels. Later studies have amply justified the original description of the coronary T wave. In the acute stage, the T wave originates from the down stroke of the R wave or up stroke of the S wave before the wave has reached the iso-electric level. In later records, as in cases without an acute onset, there is an upwardly convex S-T interval and a sharply peaked negative T wave. Later investigators [7] have pointed out that, when the T wave after acute attacks originates above the iso-electric level in either lead 1 or lead 3, it will arise in the other of these leads from the upward stroke of the S wave below the iso-electric level. Our records show the characteristic changes. The height of the T waves of our records is noteworthy and may be explained by the shortness of the interval since the onset of the attack.[2] However, it is possible that large voltage of the T wave depends in part on the large size of the vessel occluded, as Smith [2] found in ligating the left coronary of dogs. As time goes on, the records tend to assume a fixed form and any alterations in the T wave after this are very gradual. If the patient survives long enough, the records may return to normal.

It is important to note that the complete heart block in case 2 was not due to a permanent change in the structure of the conduction tissue, but rather due to a physiologic depression of its activity. In this regard, cardiac disease is identical with spinal cord disease, in which sudden complete loss of function below a certain segmental level may be due to an interruption in the anatomic continuity of the conduction pathways of the cord or to a physiologic depression due to hemorrhage or edema. It seems likely that the sudden dissociation of the auriculoventricular rhythm in our case with an eventual return to normal rhythm was due to an edema of the tissues which was ultimately absorbed.

The individual behavior of the T wave in the different leads of these electrocardiograms is another observation worthy of special comment. In lead 1 the T wave is practically normal, while in leads 2 and 3 the T wave shows marked departures from the normal. The constancy with which the T wave in lead 1 is associated with diametrically opposite changes in lead 3 and frequently in lead 2 also has been the subject of a recent communication.[8] Barnes and Whitten, in studying the T wave negativity as related to ventricular strain, conclude that an inverted T wave in lead 1 or leads 1 and 2 signifies left ventricular strain, while a negative T wave in leads 2 and 3 indicates right ventricular strain. In the same article, they state that infarction of the region usually supplied by the left coronary artery produced inversion of the T wave in lead 1 or in leads 1 and 2, whereas infarction of the region supplied by the right coronary caused inversion of the T wave

4. Levine, S. A., and Cohn, A. E.: Beneficial Effects of Barium Chloride in Adams-Stokes Disease, Arch. Int. Med. **36**: 1 (July) 1925.

5. Pardee, H. E. B.: An Electrocardiographic Sign of Coronary Artery Obstruction, Arch. Int. Med. **26**: 244 (Aug.) 1920.

6. Pardee, H. E. B.: Heart Disease in Abnormal Electrocardiograms, Am. J. M. Sc. **169**: 270 (Feb.) 1925.

7. Parkinson, J., and Bedford, D. E.: Successive Changes in the Electrocardiogram After Coronary Infarction, Heart **14**: 195 (Aug.) 1928. Levine (footnote 3).

8. Barnes, A. R., and Whitten, M. B.: Study of T Wave Negativity, Am. Heart J. **5**: 1 (Oct.) 1929.

in leads 2 and 3. We had been working on this problem when their article appeared. Our aim was to see whether changes in the T waves in different leads could be interpreted as localizing the site of the thrombosis. We have reviewed five cases of coronary thrombosis with electrocardiographic records and necropsy reports from the New York Hospital files, and seven cases with electrocardiograms and necropsy observations from the monograph recently published by Levine.[3] The accompanying table shows our results.

In the twelve cases studied, necropsy showed occlusion of the left coronary or one of its branches in ten and closure of the right coronary in two. The electrocardiogram in the cases of left coronary occlusion showed inversion of the T wave in lead 1 in seven cases and inversion of the T wave in leads 1 and 2 in two cases. The two cases of occlusion of the right coronary showed inversion of the T wave in leads 2 and 3. One case of left coronary occlusion of our series (case 5) showed inversion of the T wave in the second and third leads, the type of wave usually found in right vessel occlusion. This electrocardiogram showed a bundle branch block, which agrees with the suggestion of Barnes[8] that the lesions in the heart which produce a bundle branch block affect the electrocardiogram more strongly than other types of lesions.

Bearing of Electrocardiographic Evidence on Localization of Site of Thrombosis

	Direction of T			Coronary Occluded
(A) Our Cases:	Lead 1	Lead 2	Lead 3	
1	+	—	—	Right
2	+	—	—	Right
3	—	+	+	Left
4	—	—	+	Left
5	+	—	—	Left
(B) Dr. Levine's Cases:				
17	—	+	+	Left
27	—	—	+	Left
32	—	+	+	Left
71	—	+	+	Left
75	—	+	+	Left
76	—	+	+	Left
77	—	+	+	Left

Though the number of cases studied is small, it would seem that a distinction between right and left coronary occlusion is often possible from a study of the electrocardiograms, the left coronary following one of two patterns, inversion of the T wave in lead 1 or leads 1 and 2, while the right shows inversion of the T wave in leads 2 and 3. Inversion of the T wave in lead 3 alone was not encountered in any of the cases that were found suitable for study. Occlusion of the left coronary is more frequent than occlusion of the right (83 per cent of the cases in our table), which may be why it is often stated that a thrombosis of the right coronary does not result in changes in the electrocardiogram. From these observations, it is probable that both the patients presented in this article had occlusion of the right coronary vessel.

SUMMARY

Two patients with coronary thrombosis, one with complete heart block, recovered and are well, one two months and the other three months after the attack.

Barium chloride was found to be extremely helpful in checking paroxysms of Adams-Stokes attacks. Morphine and absolute rest are still the best therapeutics, although dextrose intravenously merits trial. It is felt that digitalis should not be used in the early days and is best used as emergencies arise.

A study of records of cases of coronary thrombosis showed that a thrombosis of the left coronary artery or one of its branches was associated with inversion of the T wave in lead 1 or in leads 1 and 2, whereas occlusion of the right coronary was associated with inversion of the T wave in leads 2 and 3. We therefore feel that in the absence of bundle branch block, the electrocardiogram may be used in localizing the thrombus in either the right or the left coronary system. We cannot offer any explanation for this relation between the vessel occluded and the particular T wave that is inverted.

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EPICONDYLITIS HUMERI

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Of all human diseases and disabilities, the self inflicted ones are of especial interest because the etiology is usually so clear. This is especially true of the occupational diseases. When the cause of a disease is found, the treatment is usually outlined and becomes more or less specific; however, the condition under discussion is a notable exception.

Epicondylitis humeri, better known as tennis elbow, and also known as epicondylalgia and radiohumeral bursitis, has been a subject for investigation since 1896 at least, when Bernhardt[1] published a paper on a little known form of occupational neuralgia.

By epicondylitis humeri we mean a well defined clinical entity with marked pain and tenderness about the elbow, occurring after a great muscular exertion or some continuous labor, the symptoms following such games as tennis, polo, baseball and squash or such occupations as pressing clothes with heavy irons, typewriting, bricklaying, carpentry or painting.

The pain is often indefinitely located about the elbow and often down the extensors of the wrist and fingers. This pain is increased on making a fist and is further accentuated on pronation. A sudden sensation of painful weakness may force the patient to drop a knife or a glass of water. He often complains of being unable to lift a light chair when picking it up by the back with the volar surface of the hand toward the floor, when the elbow is extended and the forearm is in pronation with the wrist flexed. One can localize the lesion by having the patient extend the wrist against the resistance of one's hand. Passive motion of the elbow, forearm and hand is painless and free and so is the active movement of the flexors when the forearm is supinated. The tenderness is usually localized over the external epicondyle and over the extensor muscles of the wrist and fingers. The anteroposterior and lateral roentgenograms are negative, although some German observers have reported roentgenographic evidence of a periostitis.

Such is the clinical picture as it was revealed to us in the study of seventy-four cases at the hospital of the New York Society for the Relief of the Ruptured and Crippled.

1. Bernhardt: On a Little Known Form of Occupational Neuralgia, Neurol. Centralbl., 1896.

As "tennis elbow" is probably the most popular name for our subject, we decided to investigate the tennis fraternity and obtain some information from players with personal experience. We received the most gratifying cooperation from twelve well known players, nearly all Wimbledon or Davis cup men. In reading these answers, all of which were most interesting, we were struck by the helplessness of the medical profession in dealing with a "tennis elbow." One well known English Davis cup player found, many years ago, a most simple and efficacious temporary remedy for overcoming the disabilities of tennis elbow. He applied a fairly tight bandage of adhesive plaster around the forearm or just above the elbow, such as we have seen one of this country's leading polo players wear for years. This English tennis player states further that he believes that in prolonged disability the condition becomes more mental than physical and related his own case as follows:

Fourteen years ago, he had such a severe tennis elbow that he abandoned tennis, gave away his rackets and flannels, and did not use his arm in athletics for fifteen months. After this prolonged rest, he was induced to go to New Zealand as playing captain for the English Davis cup team. He found that, the moment he began to practice again and had made up his mind to play, the whole mental aspect toward the injury changed and from then until now he has continued to play tennis without recurrence of the old trouble in its original form. This experience is interesting in view of our observations.

TABLE 1.—*Analysis of Seventy-Four Cases of Epicondylitis Seen in the Hospital for the Ruptured and Crippled*

	Cases
Age	
17 to 29	3
30 to 39	19
40 to 49	31
50 to 59	16
60 to 69	4
70 to 79	1
Sex	
Male	54
Female	20
Location	
Right elbow	61
Left elbow	10
Both elbows	3
Duration of Symptoms before Admission	
Less than 1 month	16
1 to 2 months	15
More than 2 months	43

One well known American tennis player had the following experience: His trouble began in May, 1925, and came on gradually. By the end of the month he experienced great pain when doing simple things, such as shaking hands, lifting a glass of water or brushing his teeth. The pain came from the elbow, and at the same time slight cramps occurred in the forearm. He found playing tennis impossible and went to an osteopath, who "nearly broke his back." In June of that same year he sailed for England to play at Wimbledon. In England he was advised to see a bone setter. This exponent of osteopathy diagnosed the seat of the trouble in the wrist where "three small bones" were out of place and they had caused one of the bones in the forearm to come "off its head." The bones were put back and the forearm taped. By the end of the summer, the arm was prefectly well (after four months).

One of the Davis cup players of this year's team had a severe case of tennis elbow about three years ago. His ailment was diagnosed as a radiohumeral bursitis. The bursa was removed, and after nine weeks of immobilization his elbow was well.

Most of the tennis players are of the opinion that tennis elbow is caused by hard hitting with the arm in an incorrect position at the moment of contact with the ball, that it comes on gradually, and that continued tennis, especially the backhand stroke, is very painful.

We would call attention particularly to the period of rest that was necessary in all the various treatments.

THEORIES OF PATHOLOGY

In looking over the literature on epicondylitis we find various theories as to the pathology.

Preiser [2] suggested that the condition was an arthritis of the radiohumeral joint with an inflammation of the capsule. However, we know that arthritis produces limitation of motion, pain on passive exercising of the joint, crepitation, swelling about the joint, and usually positive roentgen evidence.

Bähr [3] thought that a radiohumeral bursitis was responsible for the symptoms and also mentioned the possibility of a periositis.

Bergmann [4] reported a periosteal thickening of the external epicondyle as demonstrated roentgenographically.

Fisher, Blecher [5] and Tavernier [6] reported likewise positive roentgen observations.

Franke suggested a periostitis due to postinfluenzal infection, but in none of our cases was there a history of influenza or of any allied infection.

Coues [7] believed that the muscular attachments at the external epicondyle become torn and healed by scar tissue.

These were the main contributions to our subject until 1921, when Osgood [8] reported three cases, in two of which there was a cure after removal of a radiohumeral bursa. In these two cases a minimum of six weeks with rest and immobilization was allowed before the patient returned to the activity which produced the symptom.

Anatomists agree that the occurrence of a radiohumeral bursa is very inconstant. Disease of other bursae causes swelling and often changes in the bursae, producing a typical roentgen shadow, and there is no reason to expect a different reaction of the radiohumeral bursa to injury or disease.

Osgood's observations have been generally accepted in this country and most of our orthopedic textbooks embrace his theory of the pathologic changes involved.

In 1926, Hohmann [9] published an article on epicondylitis in which he refused to accept Osgood's theory, believing epicondylitis to be a periosteal avulsion with muscular tear. Our work was undertaken before Hohmann's article came to our attention, and his conclusions and ours are so much alike that we have hesitated somewhat to publish this paper. However, it may add to a more rational treatment of epicondylitis

2. Preiser: Der Tennis-Ellenbogen, Zentralbl. f. Chir. **34**: 65, 1907; Ueber Epicondylitis Humeri, Deutsche med. Wchnschr. **36**: 712, 1910; Statische Gelenkerkrankungen, Stuttgart, Enke, 1911.
3. Bähr: Tennisschmerzen, etc.: Ein kleiner Beitrag zur Pathologie des Radio-Humeralgelenkes, Deutsche med. Wchnschr. **26**: 713 (Nov. 1) 1900.
4. Bergmann, Ernst: Epikondylitis, Arch. f. Orthop. **23**: 368, 1924.
5. Blecher: Ueber Roentgenbefunde bei der Epicondylitis humeri, Fortschr. a. d. Geb. d. Röntgenstrahlen **20**: 239, 1913.
6. Tavernier: Lyon chir. **18**: 257, 1921.
7. Coues, W. P.: Epicondylitis (Franke) or Tennis Elbow, Boston M. & S. J. **170**: 461 (March 26) 1914.
8. Osgood, R. B.: Radiohumeral Bursitis, Epicondylitis, Epicondylalgia (Tennis Elbow), Arch. Surg. **4**: 420 (March) 1922.
9. Hohmann: Ueber den Tenniselbogen, Verhandl. des Deutsch. Orthop. Gesellsch. Kongress **21**: 349-355, 1927.

and save the patient from long continued and futile treatment at the hands of bone setters and other irregular practitioners.

Our conception of the pathologic condition in epicondylitis humeri is that of a periosteal fracture with a myofascitis of the extensor muscles which originate from the external epicondyle. The anatomy and physiology of the elbow and forearm, the phylogenesis and *locus minoris resistentiae* of muscles and our clinical experience all point to such a pathologic conception.

ANATOMY AND PHYSIOLOGY

The interesting feature of the skeletal anatomy of the elbow and forearm is the marked degree of supination

Fig. 1.—Minimum and maximum length of extensor digitorum communis.

and pronation between the radius and the ulna. This is essentially due to the small round head of the radius articulating with the proximal end of the ulna. These two bones are held so firmly together by tendinous and ligamentous structure that dislocations between them are practically unknown. In fact, the head of the radius will be fractured before it will dislocate.

The muscles concerned in this region take their origin from the condylar ridge and the external condyle of the humerus. These muscles, as they take their origin from above downward, are the brachioradialis or supinator longus, the extensor carpi radialis longus and brevis, the extensor digitorum communis, the extensor carpi ulnaris, and distally the anconeus. Beneath the conjoined tendon of these muscles is the supinator radii brevis.

These muscles receive their nerve supply from the radial nerve by means of branches that come off above the epicondyle. The sensory nerve supply also comes from the radial nerve.

Most of these muscles are of the quick action type with relatively short muscle belly and long slender tendon; but it is not generally realized how extensive the elasticity is in these muscles. This is shown graphically in figure 1.

Six normal individuals measured from the external epicondyle to the tip of the middle finger, i. e., the length of the extensor digitorum communis in its maximum and minimum length, show an average of 8.4 cm. difference. This seems of importance because if a muscle is stretched 8.4 cm. and in addition is called on to receive a severe blow, something is apt to break.

Furthermore, in supination of the forearm, the head of the radius acts as a fulcrum, with the short lever from the head of the radius to the epicondyle on one side and the long lever from the head of the radius to the head on the other side: or what is called a lever of the first order. This relation is about 1 : 10. Here lies a great disadvantage in the mechanism of the elbow, forearm and hand. Everything tends to give the epicondyle the short end, so to speak.

PHYLOGENESIS

If the human body is regarded as a living organism which has developed from a more primitive mechanism to a more and more complicated one, this change must be assumed to have been accomplished not over night but over a long span of years.

In the vegetable kingdom, motion is a curiosity. The lower animals of the ameba class probably represent the most primitive activity, and as one goes up the evolutionary ladder one finds certain of our present movements developed earlier than others. The characteristic in all these early motions is that they all are movements toward the center of the body, i. e., flexion and adduction—pronation and inversion. The nerve supply even in the embryonal stage of these muscles, which bring parts of the skeleton toward the center, is earlier and easier distinguished than the corresponding nerves to muscles performing movements away from the body; i. e., the extensors and abductors. Because most of our work and exercises are movements toward the body, we have developed the flexors and adductors to a greater power than the corresponding extensors and abductors. This is demonstrated by comparing, for instance, the flexor and extensor strength of the fingers and toes, or the strong adduction in the shoulder and hip with the comparatively weak abduction in same joints.

If this phylogenetic study is applied to the flexors and extensors of the wrist and fingers and to the pronation and supination of the forearm, it will be found that the muscles arising from the internal epicondyle of the humerus are much stronger than those coming from the external epicondyle. Hand in hand with the phylogenesis of muscles goes the specific morbidity. By this we mean that the phylogenetically older muscles are less subject to pathologic change. In this connection one may recall the prevalence of drop wrist and drop foot in peripheral neuritis, the attitude of the forearm and hand in

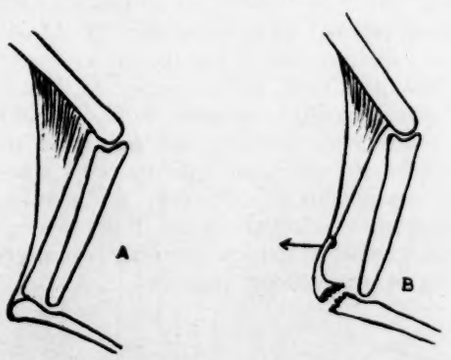

Fig. 2.—*A*, Gastrocnemius muscle in rabbit; *B*, avulsion of periosteum resulting from indirect injury.

cerebral hemiplegia, and the common pathologic involvements of the deltoid muscles and the gluteus medius and maximus as compared to the corresponding adductors and flexors. It is therefore only rational to state that the external condyle of the humerus gives origin to phylogenetically young muscle with corresponding specific morbidity.

When in our present-day activity, whether in sport or in work, our lately acquired extensors and supinators are called on for sudden feats of strength or long continued work, these structures are apt to give way. As examples of this specific morbidity may be mentioned deltoid myositis and myositis of the trapezius

muscles, the lumbar muscles and the gluteus medius. To this group belongs, undoubtedly, epicondylitis humeri.

LOCUS MINORIS RESISTENTIAE

The question to be answered next is, Where does a muscle give way first? or, in other words, Where is the weakest part of a muscle? Is it the bony connection or the point at which muscle tissue changes into connective tissue to form tendon?

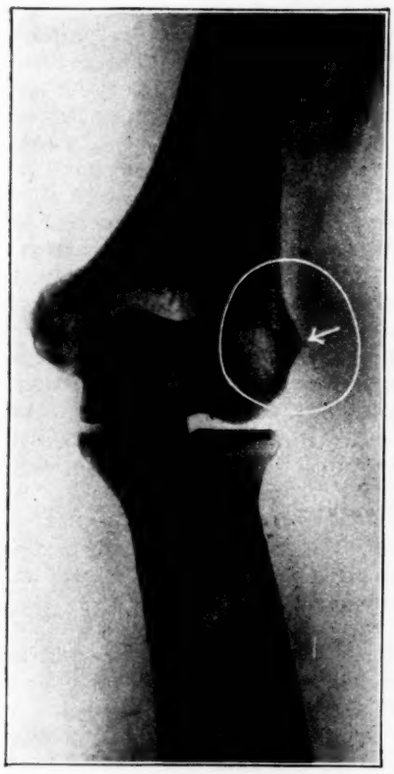

Fig. 3.—Shadow over epicondyle suggestive of avulsion.

To solve this problem we performed a simple experiment on a rabbit. Under ether anesthesia the gastrocnemius muscle was dissected out. This is a relatively powerful muscle in the rabbit with short muscle belly and long tendon. When the maximum pull is exerted on this muscle and then the point of physiologic extension is overstepped, a tear results and this invariably took place at the bony connection and not in the muscle tissue, in the tendon, or where muscle fuses into tendon (fig. 2).

It seems rational to assume that the *locus minoris resistentiae* for a muscle is not the muscle itself but the point where it is fixed on the skeleton. We therefore thought that it would be possible to find some roentgen evidence; but after studying a number of anteroposterior and lateral views of patients with epicondylitis we were disappointed. However, by taking oblique roentgenograms, tilting the x-ray tube 45 degrees, we were able to find a shadow over the epicondyle very suggestive of an avulsion (fig. 3).

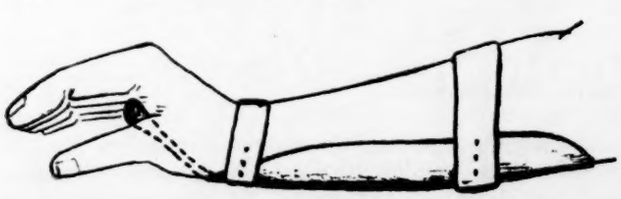

Fig. 4.—Cock-up splint.

DIAGNOSIS

The symptoms are clean cut and seldom cause any difficulties. One may, however, distinguish between the acute and the chronic types of epicondylitis.

The acute type always originates in one or more repeated severe sudden strains on the muscles from the external epicondyle. This is the typical tennis elbow. These symptoms are localized pain and tenderness in the region of the external epicondyle, radiating down the extensor muscles. If the wrist is flexed and then extended against resistance, severe pain is felt. Making a tight fist and pronating the forearm also exaggerate the pain. Objects can be lifted with the forearm in supination, but pronation of the forearm makes lifting extremely painful or impossible. The chronic type of epicondylitis is of occupational origin. This is the typical presser's elbow. The patient finds it more and more difficult to lift the heavy iron until he has to give up work, while the localized epicondylar pain is most pronounced in the acute cases; in the chronic cases the tenderness along the extensor muscles and along the supinator muscle is the most characteristic symptom.

Passive motion is free and painless in all the joints of the upper extremity. Differential diagnosis must be made from arthritis in the elbow joint, brachial neuritis and writers' cramp.

TREATMENT

It was the poor results obtained in the treatment of epicondylitis humeri that challenged us to this investigation. These patients used to come to our clinic, where the diagnosis was easily made, and then they were referred to the department of physical therapy, where every known modality was tried on them, with a very small percentage of cures.

TABLE 2.—*Analysis of Sixteen Cases Treated with New Method* *

Patient	Age	Activity	Duration	Whether Working or Not	Symptoms	Time and Treatment	Discharge
1. S. K.	46	Presser	2 wk.	No	Typical	41 D.	R. P. S.
2. E. F.	43	Factory worker	1 mo.	Yes	Typical	64 D.	R. P. S.
3. I. M.	56	Factory worker	2 mo.	No	Typical	67 D.	I
4. B. D.	17	Tennis player	3 wk.	Yes	Typical	23 D.	R. P. S.
5. P. K.	40	Presser	2 mo.	No	Typical	29 D.	R. P. S.
6. G. K.	56	Delivery work	2½ mo.	Yes	Not typical	25 D.	I
7. I. B.	54	Housework	1½ mo.	Yes	Typical	34 D.	R. P. S.
8. C. S.	60	Brace maker	4 mo.	No	Typical	20 D.	R. P. S.
9. I. T.	55	Cutter	5 wk.	Yes	Typical	14 D.	R. P. S.
10. F. Z.	41	Polo player	6 mo.	No	Typical	42 D.	R. P. S.
11. H. K.	37	Presser	1½ mo.	No	Typical	40 D.	R. P. S.
12. S. S.	51	Housework	2 yr.	Yes	Typical	15 D.	I
13. A. G.	47	Waiter	2 wk.	No	Typical	25 D.	R. P. S.
14. A. P.	55	Presser	5 wk.	Yes	Typical	19 D.	I
15. I. R.	50	Squash player	3 wk.	No	Typical	62 D.	R. P. S.
16. H. A.	41	Squash player	3 wk.	No	Typical	8 D.	R. P. S.

* In the last column, R. P. S. means recovery perfectly satisfactory. In the preceding column, D indicates days.

Since we established what to us was a rational explanation of the pathologic change involved, our results have been quite different. Instead of subjecting the patient to different kinds of mobilizing treatments, we have based our therapeutics on physiologic rest. By rest we mean immobilization of the external epicondyle and the muscles originating from this bony ridge. We assume that we are dealing with a periosteal fracture with myositis of the extensor muscles, and accordingly we put the forearm and wrist in a position that should allow the maximum relaxation of the muscles involved. We found the most practical splint to be the usual cock-up splint for the wrist such as is used for a drop wrist (fig. 4).

This splint is held firmly in place by two straps, one just below the elbow, and this is of additional help in securing immobilization of the muscle and relief of pain. The other strap goes around the wrist, with a

small head of splint to fit the palm of the hand. The patient can continue all the flexor activities of the hand, but complete supination and pronation is prevented and the extensor muscles are relaxed.

In addition to physiologic rest we used the following physical therapy for the relief of the myofascitis: In acute cases, treatment was given every other day with a ten minute application of dry heat, thirty minutes of diathermy, 900 milliamperes, with one electrode applied over the upper half of the extensor muscles and the other electrode over the whole flexor surface of the forearm. This was followed by ten minutes of medium massage.

The chronic cases were treated with a static wave current over the extensor muscles for twelve minutes with a 2 inch spark gap, followed by static sparks over the same area for three minutes.

With these procedures our results were quite gratifying.

CONCLUSIONS

1. Epicondylitis exists in two forms: one acute form, such as is seen in the tennis elbow, and one chronic form, which is usually occupational.
2. The pathology is probably that of a periosteal avulsion with a myofascitis. In the real tennis elbow the periosteal symptoms predominate, while in the occupational type the myositis is worst.
3. No treatment is of any avail unless the extensor muscles from the external condyle are relaxed.
4. The best splint for such a purpose is the cock-up splint.

THE COST OF OBSTETRIC SERVICE TO BERKELEY MOTHERS

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CLEVELAND

This report is the first of a series dealing with an investigation of the physical conditions surrounding maternity and infancy in the city of Berkeley, Calif. The study was started in October, 1927, at which time I was assistant professor of child hygiene in the University of California, and is still being carried on in cooperation with the Institute of Child Welfare at the University of California.

The relatively low maternal and infant mortality prevailing in Berkeley suggested at the outset the desirability of attempting to evaluate the complex social, economic and public health factors contributing to this favorable situation. The intimate problems involved have therefore been approached from the standpoint of why so many mothers and babies live and thrive in Berkeley rather than from that of maternal and infant mortality rates. So few mothers and babies die each year as to impair the reliability of any exact statistical considerations of mortality rates. Each maternal and infant death, however, has been studied intensively and will be assigned a definite place in seeking a solution for the whole problem.

A detailed schedule of investigation was drawn up incorporating every item of importance pertaining to prenatal, obstetric, neonatal and infant conditions as they affect both mother and child. A history of all previous pregnancies is also included. In order to secure as comprehensive a picture as possible of each case, an intensive study of social, economic and cultural backgrounds is provided for in additional records. First-hand contacts were made with physicians, hospitals, nurses and mothers in the home in securing confidential medical and nursing data and information as to the cost of obstetric service. Every case was later followed up in the home by a competent public health nurse and a social worker to complete the case histories in social and economic factors. The completeness of the data is due largely to the painstaking work of Miss Agnes Covalt, public health nurse, and of Miss P. M. Welch, research associate at the Institute of Child Welfare.

TABLE 1.—*Cost of Obstetric Service to Berkeley Mothers*

Specified Service	Number of Mothers Receiving Specified Service	Total Amount Charged for Specified Service	Mean Cost in Dollars	Median Cost in Dollars	Standard Deviation
Physician.....	343	$31,598.50	92.12±2.20	73.87±2.76	60.47±1.55
Midwife.....	9	298.00	33.11±2.00	32.50±2.51	8.90±1.41
Trained nurse....	53	6,159.00	116.21±12.51	89.00±15.68	135.02±8.84
Nurses' board....	42	707.50	16.85±1.95	14.16±2.44	18.78±1.38
Practical nurse..	63	3,720.50	59.05±3.30	53.12±4.13	38.86±2.33
Home help.....	103	6,170.70	59.91±4.33	42.08±5.43	65.11±3.06
Ambulance.....	33	204.80	6.21±0.34	7.60±0.43	2.91±0.24
Hospital room...	181	14,817.75	81.87±1.76	81.66±2.20	35.17±1.25
Hospital ward...	121	7,474.20	61.77±1.32	61.75±1.65	21.56±0.93
Delivery room...	180	1,800.00	10.00	.....	.....
	*100	1,500.00	15.00	.....	.....
	4	83.20	20.80	.....	.....
Operating room.	16	218.80	13.67±1.60	7.50±2.00	9.49±1.13
Anesthetic.....	210	1,138.00	5.42±0.20	5.54±0.25	4.30±0.14
Laboratory.....	75	247.00	3.29±0.22	2.28±0.27	2.82±0.16
Dressings & drugs not segregated..	149	790.24	5.30±0.13	5.64±0.16	2.37±0.09
Dressings.....	92	383.70	4.17±0.15	5.30±0.19	2.12±0.10
Drugs.....	102	249.23	2.44±0.13	1.84±0.16	2.03±0.09
Other hospital expenses.....	171	404.03	2.35±0.11	1.86±0.14	2.12±0.08
Care of infant...	19	222.50	11.71±2.06	9.90±2.58	13.35±1.46
Circumcision.....	89	1,441.25	16.19±0.59	18.75±0.74	8.28±0.42
Other operative costs.....	10	326.30	32.63±10.59	13.27±7.50	49.65±7.49

* This includes $5 per case for dressings and drugs not segregated.

The method of sampling used in this study is based on a selection of every third birth in chronological sequence as registered at the Berkeley Health Department during the year 1928. It includes only births to mothers residing in Berkeley that year. This method of selection has been preserved throughout the entire period with the exception of a few births to Berkeley mothers taken at random from the end of the year 1927 and a few from the month of January, 1929. A total of 390 obstetric cases, therefore, forms the basis of this investigation. The data in 376 cases are sufficiently complete to permit a presentation of the total cost of obstetric service for that number.

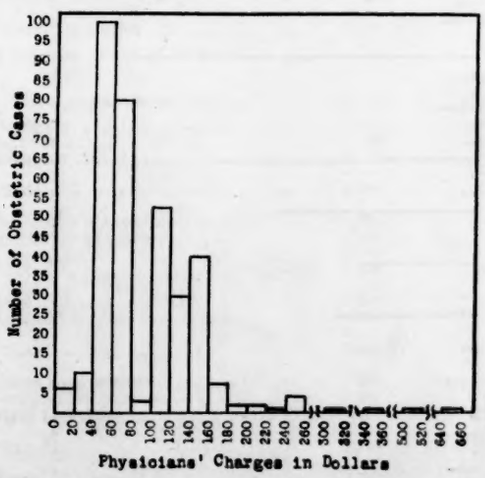

Chart 1.—Physicians' charges for obstetric service to Berkeley mothers.

There occurred 1,128 live births and twenty-four stillbirths to Berkeley mothers in 1928. In only a few instances was it necessary to drop cases out of this study on account of lack of cooperation of physicians

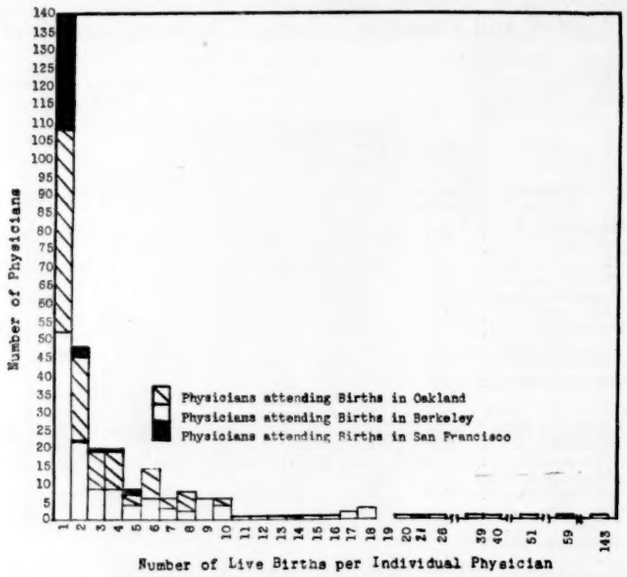
Number of Physicians
Physicians attending Births in Oakland
Physicians attending Births in Berkeley
Physicians attending Births in San Francisco
Number of Live Births per Individual Physician

Chart 2.—Number of live births occurring to Berkeley mothers per individual physician in attendance during 1928.

or hospitals. Without the cooperation on the part of physicians, nurses and hospitals in the San Francisco Bay region, this study would have been impossible.

TABLE 2.—*Physicians' Charges for Obstetric Service to Berkeley Mothers*

Dollars Charged	Number of Obstetric Patients Charged the Amount Specified	Number of Cases	Total Amount of Money Charged
5.00		2	$10.00
8.00		1	8.00
10.00		2	20.00
19.00		1	19.00
20.00		3	60.00
25.00		3	75.00
35.00		5	175.00
40.00		2	80.00
50.00		96	4,800.00
51.00		1	51.00
53.50		1	53.50
60.00		7	420.00
65.00		1	65.00
70.00		2	140.00
75.00		69	5,175,00
80.00		1	80.00
90.00		2	180.00
100.00		52	5,200.00
110.00		1	110.00
120.00		1	120.00
125.00		29	3,625,00
135.00		1	135.00
145.00		2	290.00
150.00		37	5,550.00
157.00		1	157.00
160.00		2	320.00
170.00		1	170.00
175.00		4	700.00
185.00		1	185.00
195.00		1	195.00
200.00		2	400.00
235.00		1	235.00
250.00		4	1,000.00
300.00		1	300.00
350.00		1	350.00
500.00		1	500.00
645.00		1	645.00
		343	$31,598.50

From the beginning we have insisted that the first approach to every case should be through the physician in attendance and that no move should be made toward the hospital or home without his consent and cooperation. A great deal of time has been spent in visiting physicians to explain the methods and scope of this project. In our sample the percentage distribution of the data as to patients employing physicians, midwives, or hospital or home care falls within from 1 to 2 per cent of a similar distribution among the total number of confinements to Berkeley mothers during the year 1928. This practically amounts to a random sampling of the whole.

TABLE 3.—*Distribution of Obstetric Cases of Berkeley Among Physicians of Berkeley, Oakland and San Francisco in 1928*

Berkeley:	
Total live births occurring in Berkeley (uncorrected for residence)	814
Number of individual physicians attending	132
Average number of births per physician	6.17
Oakland:	
Total live births to Berkeley mothers occurring in Oakland	406
Number of individual physicians attending	122
Average number of births per physician	3.33
San Francisco:	
Total live births to Berkeley mothers occurring in San Francisco	46
Number of individual physicians attending	35
Average number of births per physician	1.34

The study of obstetric costs was first undertaken because it is often claimed that a close correlation exists between the economic status of the family and the type of medical and nursing service. Furthermore, a number of studies have pointed out an apparent relation between infant and maternal mortality and low economic level of the family. In the present cost accounting I have tried to take into consideration every item of expense that is associated with the obstetric situation, beginning with prenatal care, including every dollar spent for medical, nursing, hospital and home helps, and extending up to the time of the final examination and discharge by the physician. In most cases the final examination takes place between four and six weeks after confinement. In several of the cases, complications unduly prolonged recovery; but, as these

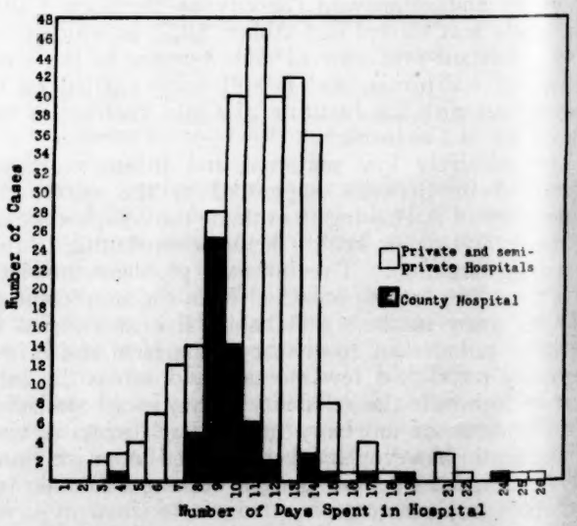

Chart 3.—Number of days of confinement of Berkeley mothers in private, semipublic and county hospitals during 1928.

were directly the result of the puerperal state, their costs are likewise included. Costs of illness not directly or indirectly the outcome of pregnancy are not considered.

Table 1 exhibits the distribution of obstetric costs to Berkeley mothers under twenty specified items. It is

readily seen that the number of services rendered the different mothers varied considerably in amount and individual costs. This table shows the number of mothers taking advantage of the specified services; the total amount charged for such services; the mean, or average, cost; the median cost, and the standard deviations. The reliability and significance of these calculations are revealed by the relatively small size of the probable errors in relation to their constants. This holds in every case except under "other operative costs," in which only ten cases are considered.

A more detailed analysis of physicians' charges is presented in table 2 and in chart 1. In recording physicians' fees I have taken only those charges as billed to the patient. It has not been possible to determine the actual sums the physician in each case has been able to collect, desirable as this information appears. The physician's average charge per obstetric case in the present series is $92.12, with a median of $73.87. If the charges for the cases with high deviations are discarded, the average charge per case would be about $89. The modal, or the most frequent charge, is seen to be $50. There appears among physicians a tendency to set their obstetric fees at multiples of $25, beginning at $50 (table 2).

It is instructive to note the relation of obstetric cases in Berkeley to the number of physicians in Berkeley, Oakland and San Francisco. This is shown graphically for the year 1928 in chart 2. It is summarized briefly in table 3.

In the present series of 390 obstetric cases, 144 individual physicians were in attendance, giving an average number of 2.7 confinements per physician. These figures indicate a wide distribution of cases in the obstetric practice of individual physicians in the San Francisco Bay region. While a few physicians may be confining their practice entirely to obstetrics, the great majority are accepting obstetric cases as a part of their general practice.

One of the outstanding features brought to light by this study is the large number of Berkeley mothers confined in hospitals. During the year 1928, 83.51 per cent of the total live births to Berkeley mothers occurred in hospitals. In the series of 390 deliveries, 85.6 per cent occurred in hospitals. This is a larger percentage than is known to occur in any other American city the size of Berkeley. Table 4, corrected for residence, exhibits the place of all live births to Berkley mothers during the year 1928. It should be noted that 28.9 per cent of the total live births occurred in one hospital. If only the total live births in Berkeley are considered, without reference to residence of the mothers, it is found that 51.3 per cent took place in the Alta Bates

TABLE 4.—*Live Births to Berkeley Mothers During 1928 (Corrected for Residence)*

Place of Birth	Number	Percentage of Total
Alta Bates, Berkeley	326	28.90
At home	176	15.60
Berkeley General	162	14.36
Fabiola, Oakland	157	13.92
Highland, Oakland	87	7.71
Merritt, Oakland	45	3.99
Providence, Oakland	34	3.01
Oakland Maternity	29	2.57
Peralta, Oakland	27	2.39
St. Anthony's, Oakland	16	1.42
Children's, San Francisco	11	0.97
El Reposo, Berkeley	9	0.80
St. Francis, San Francisco	8	0.70
Stanford Hospital, San Francisco	6	0.53
Midwives' homes, Oakland	6	0.53
University of California Hospital, San Francisco	4	0.35
Midwives' homes, Berkeley	3	0.27
Private homes, Oakland	3	0.27
St. Mary's Help, San Francisco	3	0.27
Lane Hospital, San Francisco	2	0.18
St. Mary's Hospital, San Francisco	2	0.18
Sutter Hospital, San Francisco	2	0.18
Hahneman Hospital, San Francisco	2	0.18
Inez Sanatorium, Oakland	1	0.09
Salvation Army Maternity, Oakland	1	0.09
St. Luke's Hospital, San Francisco	1	0.09
St. Joseph's Hospital, San Francisco	1	0.09
Mount Zion Hospital, San Francisco	1	0.09
Letterman General, San Francisco	1	0.09
Dante Sanatorium, San Francisco	1	0.09
Private home, San Francisco	1	0.09
Total	1,128	100

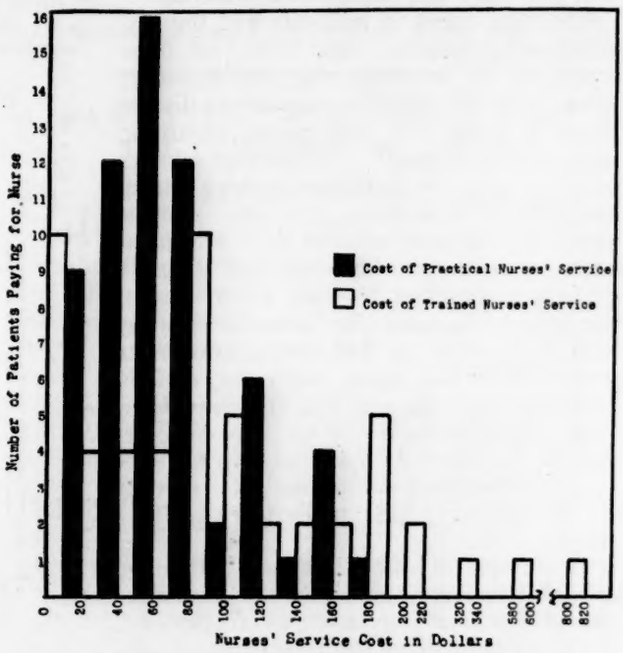
Number of Patients Paying for Nurse
Cost of Practical Nurses' Service
Cost of Trained Nurses' Service
Nurses' Service Cost in Dollars

Chart 4.—Cost of nursing service to Berkeley mothers.

TABLE 5.—*Live Births to Berkeley Mothers During 1928*

Place of Birth	Number	Percentage of Total
Berkeley	676	60
Oakland	406	36
San Francisco	46	4
Total live births	1,128	100
Including 7 pairs of twins		
Attendant at Birth	**Number**	**Percentage of Total**
Physician	1,087	96.36
Midwife	36	3.19
Others	5	0.45
Total	1,128	100
Live births in hospitals	942	83.51
Live births at home	186	16.49
Total	1,128	100
Males	584	51.77
Females	544	48.23
Total	1,128	100
Native born parents	795	70.48
Foreign born parents	149	13.21
Mixed parentage	184	16.31
Total	1,128	100
White	1,060	93.97
Black	32	2.84
Japanese	27	2.39
Chinese	7	0.62
Brown	2	0.18
Total	1,128	100

Hospital. The percentage distribution of cases in other hospitals and at home is readily seen in table 4. Table 5 is presented to show still further the distribution of live births as regards the attendant at birth, and the sex, parentage and color of the children.

The time spent in hospitals and the distribution of hospital costs is so well illustrated by the accompanying charts and by table 1 that it is scarcely necessary to discuss them in detail. A few points regarding them may be stressed. The average number of days spent by Berkeley mothers during confinement in hospitals was ten. This is practically the same whether the confinement occurred in private hospitals (10.52 days) or in the Highland Hospital (10.27 days), the county hospital for Alameda County (chart 3). Of the 390 total confinements embraced by this study, thirty-one, or 7.94 per cent, took place at the Highland Hospital. This is practically the same percentage of Highland Hospital cases (7.71 per cent) as occurred among the total number of live births (1,128) to Berkeley mothers during 1928.

Seventeen of the thirty-one Highland Hospital patients studied in this investigation paid $249.80, averaging $14.69 per case, for one or the other specified items of cost. The sums paid range all the way from 50 cents to $70 and represent amounts paid for prenatal care, registration fees at health centers, laboratory fees, dressings, drugs and home helps. The other fourteen Highland Hospital patients paid nothing for their obstetric care.

In the present series the physicians in attendance extended professional courtesy in not making any charge to six patients. The other expenses in these

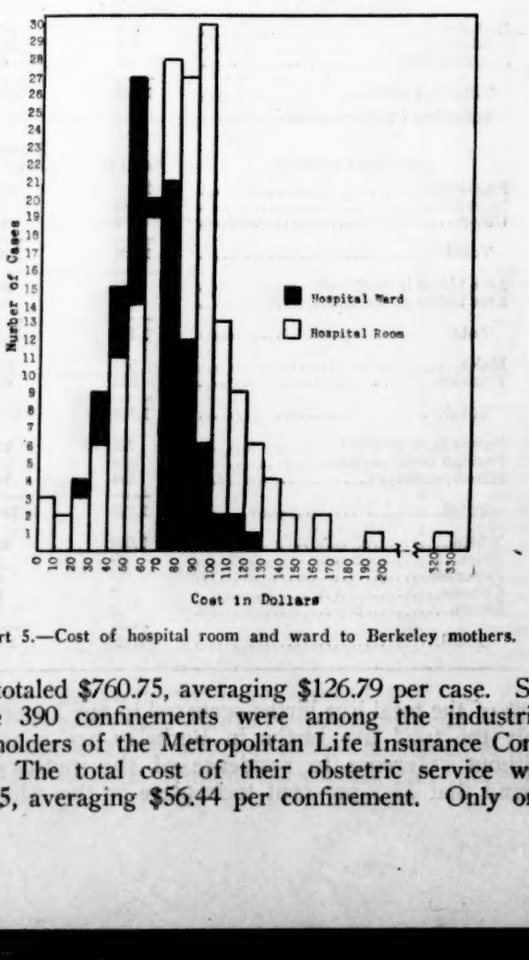

Chart 5.—Cost of hospital room and ward to Berkeley mothers.

cases totaled $760.75, averaging $126.79 per case. Six of the 390 confinements were among the industrial policyholders of the Metropolitan Life Insurance Company. The total cost of their obstetric service was $338.65, averaging $56.44 per confinement. Only one of these patients was confined at a hospital, at a total cost of $103.65. The physicians' charges in these cases were $50 apiece for four and $35 and $25 for the other two. Two other patients took advantage of the service offered by a "Peoples' Hospital Association"

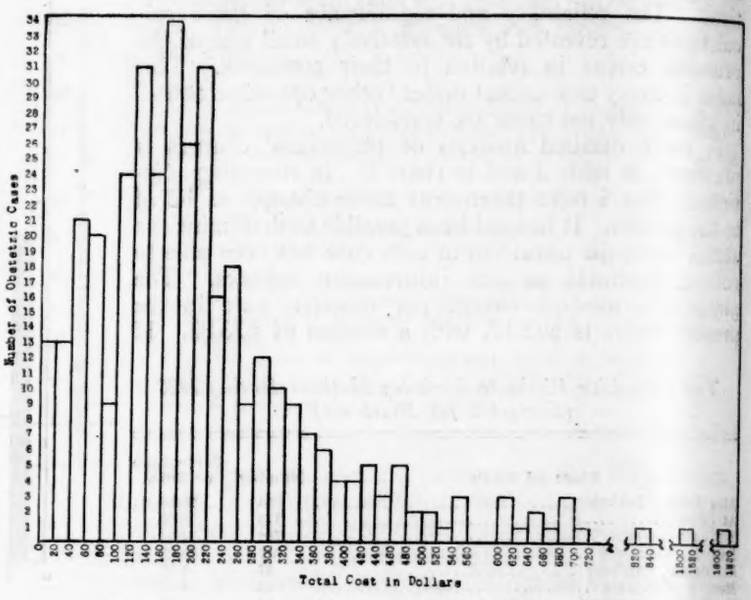

Chart 6.—Total cost of obstetric service to Berkeley mothers.

with charges of $35 and $50 for physicians, and hospital charges in one case of $76.95. One case was recorded as an Associated Charities case with no charge by a physician and $69.90 hospital charges. A summary of these cases in relation to physicians' fees is presented in table 6.

From these figures it is seen that almost 10 per cent of the patients were not charged any physician's fee. This, of course, does not include the cases in which the physician was able to collect only a part of his standard charges. It would be enlightening to learn what proportion of these did not yield the full physician's charges.

The number of Berkeley mothers paying for the service of a trained nurse exhibited the greatest variability. No typical distribution is to be noted

TABLE 6.—*Type of Case in Relation to Physicians' Fees*

	Number	Percentage of Total
Patients charged by physicians	343	87.95
Patients charged by midwives	9	2.31
Highland Hospital cases, no charge by physician	31	7.94
Professional courtesy cases, no charge by physician	6	1.54
Associated Charities case, no charge by physician	1	0.26
Totals	390	100.00

(chart 4). The mean cost per case reached $116.21, with a median of $89. In addition to this the special nurses' board, averaging $16.85 a case, must be considered. Three of the high deviations in the trained nurses' costs occurred in complicated cases running over considerable time and involving more than one nurse on the case. It would appear that trained nurses are employed largely in the complicated cases, during the first day or two after confinement, and by the wealthy over longer periods. The regular nursing service provided by the hospital and practical nurses and home helps supply the needs for the great majority of cases.

The distribution of patients employing practical nurses assumed a more typical appearance (chart 4). The mean cost of a practical nurse in this series amounted to $59.05, with a median of $53.12. The standard deviation for this item was only 38.86 ± 2.33, compared with a standard deviation of 135.02 ± 8.84 for trained nursing service.

The amount of money expended for home helps varied considerably, the larger number being employed for several days only, but a few for many weeks. The average cost for home helps in the present study was just about the same as for practical nursing, $59.91 per case.

When the various items entering into hospital costs are analyzed in detail and presented in a number of charts, they reveal a rather typical distribution. It is interesting to note that when dressings and drugs are not segregated on the bill the average cost is less than when they are billed separately. One of the hospitals makes it a rule to charge extra for the care of the baby. In nineteen cases the average charge for infant's care was $11.71. A considerable number (eighty-nine) of the male babies were circumcised while still in the hospital. This amounted to an average charge per circumcision of $16.19.

The total cost of obstetric service (chart 6) to Berkeley mothers in which some cost is represented in one or more of the specified items in table 1 averaged $213.75 per case. In half of the cases the charges were $179.41 or less. If the average is calculated on the basis of all the cases (390), including patients who did not pay anything, it would be reduced to $206.07. As these costs include every item that could legitimately be included in the actual cost of obstetric care, they give a good idea of such cost to Berkeley mothers. It is safe to state that the total cost of the average obstetric case in Berkeley will be somewhere between $200 and $215. In exceptional cases, and especially in those with complications, the cost may run to $1,000 or even $1,800.

Compared with the few other studies made in such detail, the average cost of obstetric service in Berkeley appears fairly reasonable. It is planned in a future study to give an even more detailed analysis of these costs and at the same time to present correlations with other economic, social and public health aspects of this subject.

715 Superior Avenue.

A NEW TYPE OF FOREIGN BODY IN THE URINARY BLADDER*

DORRIN F. RUDNICK, M.D.
CHICAGO

During the past few years a great number of various sorts of foreign bodies have been reported as having been found in the urinary bladder, including such articles as chewing gum, hair pins, needles, tallow candles, rubber catheters, pencils and clinical thermometers.

Lanteen
LABORATORIES, Inc.
Reprint from LANTEEN Catalog
Lanteen Preparations are Powerfully Antiseptic yet Absolutely Harmless and Non-Irritating to Delicate Membranes
FOR THE YOUNG WIFE OR MOTHER WHEN TRAVELING
CONVENIENT
FOR THE MOTHER OF TWO OR MORE
IDEAL FOR THE BRIDE OR THE MOTHER OF ONE CHILD
FOR ALL TYPES OF WOMEN
FOR THE MIDDLE-AGED MOTHER OF SEVERAL CHILDREN
Showing Opening Leading to Womb
Unilateral
Mother of One
Mother of Many
CERVIX

Fig. 1.—Partial view of the circular on methods of contraception being distributed to the public.

The case that I am reporting is, I believe, unique and worth calling attention to in view of the sudden flood of contraceptive methods and instruments into the hands of the laity.

REPORT OF CASE

An intelligent white woman, aged 22, married, was delivered of a normal full-term baby, Oct. 26, 1929, at the Cook County hospital. Following delivery she returned weekly to the postnatal clinic and her course, as well as that of the baby, was normal and uneventful.

During the latter part of February she received a letter from the Medical Bureau of Information on Birth Control located at 190 North State Street, Chicago, requesting that she appear at their offices regarding her child. Not understanding the nature of the request, she deemed it wise to call as requested. When she arrived at the office mentioned, some woman, presumably a nurse, at least so attired and addressed as "Miss," entered into a lengthy discussion with her on birth control, its desirability and the various means of accomplishment. The combined method of a jelly plus a rubber diaphragm was recommended as the safest.

The patient relates that she did not seek advice or methods of contraception, nor had she even given them a thought. She

* From the Urological Department of the Cook County Hospital.

did not know how the bureau obtained her name and address but assumed that it had some connection with the County Hospital or Health Department and received the information in that way. She was impressed with the idea and bought a rubber diaphragm contraceptive (fig. 2) for $3. The nurse then gave her instructions on how to insert it, which cost an additional $3, and a prescription for contraceptive jelly (fig. 1) which she purchased at a designated drug store.

At her first attempt to insert the rubber diaphragm at home, the patient experienced difficulty. It caused considerable

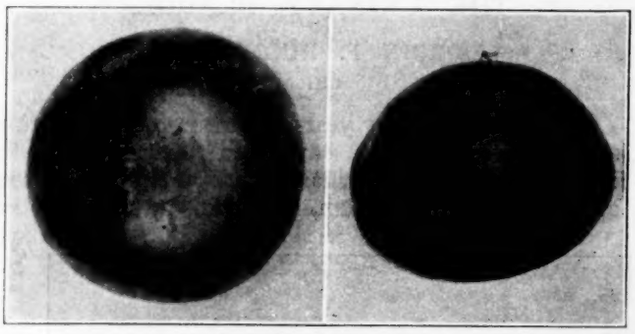

Fig. 2.—Two views of the rubber pessary after its removal from the bladder.

pain and the patient, feeling that something was wrong, attempted to remove it but could not find it. This occurred on Saturday. By Monday she was suffering frequency, suprapubic pain and pain at the end of urination. That afternoon she returned to the Medical Bureau office to complain. She was examined, the pessary was not located, and she was told to go home and take baking soda and laxatives. Feeling worse the next day, she returned for more advice and was sent to the Central X-Ray Laboratory. A flat roentgenogram revealed the pessary, which she was informed was probably in the bladder.

She went to the Cook County Hospital and was admitted to the urologic service. Cystoscopy readily revealed the grayish rubber pessary. A urethral speculum was inserted, and the bag located, grasped and extracted by Allis pick up forceps.

The pessary was conical and was 3½ inches in diameter and 1½ inches at its greatest depth. It was made of heavy rubber

A B

Fig. 3.—*A*, cystogram made with rubber diaphragm in situ; bladder distended with 12.5 per cent solution of sodium iodide. *B*, view of bladder distended by air.

on a flexible metal ring, and was known as a "Ramses Pessary," a modification of the "Mensinga Pessary." [1]

COMMENT

A wave of publicity concerning contraceptive methods has spread over the country, instruments being offered to lay people which can become dangerous in their hands.

Possibly other foreign bodies in the female bladder, such as catheter tips and chewing gum, have been introduced there in ill advised attempts at prevention of conception.

Every statement in this report has been taken from the Cook County Hospital clinical record.

55 East Washington Street.

1. Cooper, J. F.: Technique of Contraception, New York, Day-Nichols & Company, 1928.

PERFORATING NONSPECIFIC ULCER OF THE ASCENDING COLON SIMULATING APPENDICITIS

REPORT OF CASE

ROBERT BOYER, M.D.
AND
LOUIS TUFT, M.D.
Visiting Surgeon and Pathologist, Respectively, Northwestern General Hospital
PHILADELPHIA

Numerous conditions, some common, others rare, have received frequent mention in the literature as lesions that may closely simulate acute appendicitis. Practically no mention is made of perforating nonspecific ulcer of the ascending colon, a rather rare condition with an obscure etiology but with a symptomatology and clinical manifestations much like those of acute appendicitis. Such a case came under our care recently and, because of its rarity and unusual characteristics, it was deemed worthy of record.

REPORT OF CASE

A. S., a white man, aged 53, was admitted to the surgical wards of the Northwestern General Hospital, March 10, 1929, because of pain in the lower right quadrant, accompanied by nausea but no vomiting. He had first consulted one of us (R. B.) in 1920 because of attacks of epigastric pain, nausea, flatulence, recurrent anorexia and a moderate loss in weight, these attacks having first begun in 1918 and having recurred at frequent intervals since. The patient was admitted to the hospital at this time for thorough study, including fractional gastric analysis, stool examination, particularly for occult blood, and roentgen studies of the gallbladder and the entire gastro-intestinal tract. Except for slight hyperchlorhydria shown in the gastric analysis, the other examinations were entirely negative. Treatment consisting of daily gastric lavage, a restricted diet and alkalis failed to produce any improvement and at the end of six weeks the patient voluntarily discontinued treatment and left the hospital unimproved. He was not seen again until 1922, when he returned with the same symptoms. He stated that during the interval he had had another roentgen-ray study of the gastro-intestinal tract with entirely negative results. Blood examination, including a Wassermann test and study of a smear for malaria, and a spinal fluid examination gave entirely negative results. The patient remained under treatment again for two months but obtained no relief and discontinued treatment. From this time on he was seen for short periods at intervals of two years but at no time did he obtain any relief from his symptoms. In February, 1928, the pain for the first time seemed to be localized in the region of the appendix and, because of the existence of a slight leukocytosis at this time, a diagnosis of chronic appendicitis was made and operation advised. This was refused by the patient because in both roentgen examinations the appendix had been found to be normal. He was not seen again until just prior to admission, when he presented symptoms suggesting a possible acute appendicitis and was advised to go to the hospital.

On admission the patient appeared moderately well nourished and seemed to be acutely ill. The temperature was normal and the pulse somewhat rapid. Examination of the abdomen showed rigidity and tenderness in the lower right quadrant with rather quiet peristalsis. The white count was 20,100, with 87 per cent polymorphonuclears. A diagnosis of acute appendicitis was made and operation was performed soon after

admission. Incision was made on the right side. The appendix showed subacute inflammation and was retrocecal. There was a small amount of serous fluid in the peritoneal cavity. About 3 inches above the ileocecal junction, a hard indurated mass about 6 or 7 cm. in length was felt in the ascending colon. A tentative diagnosis of cancer was made and that portion of the colon was resected, followed by an end-to-end anastomosis and by appendectomy. The wound was closed with adequate drainage. The patient did poorly after operation; the abdomen became markedly distended, the temperature was irregular and on March 15 a fecal fistula developed. March 17, another laparotomy was done, and with a view of relieving the distention an ileostomy was performed. The patient did poorly after this procedure; his condition grew worse, and death occurred, March 18, 1929. An autopsy could not be obtained.

Pathologic examination of the removed specimen showed that a portion of the colon had become somewhat dilated and pouched out. The peritoneal surface in the midportion was rather injected. On the inner surface was a large funnel-shaped ulcer about 1 cm. in diameter with its apex below; the edges were indurated and covered with a grayish mucoid exudate. The ulcer extended completely through to the peritoneal coat, which was extremely thin, showing evidently that the ulcer was ready to perforate. The edges of the ulcer were extremely hard and great resistance was encountered in cutting it, apparently because of fibrosis. The appendix did not show anything of importance.

Histologically, a section from the ulcer showed marked thickening of all the coats with diffuse inflammatory infiltration between the glands and in the submucosa. In the midportion of the mucosa there was a deep crater-like ulcer, which contained in the tissues beneath a large amount of necrotic material, with many red cells, polymorphonuclear leukocytes and fibrin. There was no evidence of tuberculosis or syphilis present.

The appendix showed edema of the coats and infiltration with red cells and small round cells, perivascular in type.

The diagnosis was ulcer of the ascending colon and chronic appendicitis.

COMMENT

The finding of a perforating ulcer in the ascending colon in a patient who presented such typical symptoms and signs of acute appendicitis was quite unexpected. Grossly, the ulcer resembled in its characteristics the ordinary peptic ulcer of the stomach and duodenum; it was crater-like and funnel-shaped with the apex directed outward to the serosa and with sharp edges. This type of ulcer, described by some as simple or nonspecific, rarely occurs in the colon. Levy,[1] in a complete survey of the literature up to 1921, reported a total of thirty-five cases, including his own. Since then another was added by Moll[2] in 1926, so that including our own only thirty-seven cases have been recorded in the literature. Of these, eight were in the cecum, nine in the ascending colon, three in the hepatic flexure, one in the transverse colon, three in the splenic flexure, four in the descending colon, seven in the pelvic colon and two in the rectum. The condition seems more frequent in males; twenty-five of the thirty-seven patients, including our own, were males. It has occurred at all ages but seems more frequent in the fourth decade.

The etiology is obscure. Those factors which have been mentioned as causes of peptic ulcer of the stomach and duodenum are similarly mentioned in connection with these ulcers: focal infection with localization in the cecum as propounded by Rosenow; the presence of an aberrant gastric gland containing mucosa in the cecum, giving rise to ulceration by secretion of acid, and finally a thrombosing endarteritis with subsequent necrosis. The latter condition was found present in Levy's case, being discovered in serial sections. None of these factors have been proved as definite or specific and, as is true of ordinary peptic ulcer, the etiology is still unknown. Such conditions as tuberculosis, syphilis or dysentery have been usually excluded by the patient's history, by laboratory tests such as the complement fixation test and stool examination, and by histologic examination of the excised specimen.

In none of the cases was the diagnosis made prior to operation. A history of long-standing dyspepsia was present in a few, as in our case, but such a history cannot be considered diagnostic. In practically all instances the first suspicion that any trouble existed in the right lower quadrant occured when the patient's pain shifted from the epigastric to the lower iliac regions, and in these cases the diagnosis of appendicitis was then made. These symptoms occurred usually either after the ulcer had penetrated to the serosa or when actual perforation had taken place. In thirty-one out of the thirty-seven cases reported, perforation had already occurred, resulting in peritonitis, usually localized but sometimes diffuse. At times a local abscess formed before operation. The symptoms and signs in these cases at the time of perforation so closely resemble those of appendicitis that differential diagnosis is practically impossible. In most cases the true nature of the condition was not discovered until the abdomen had been opened, either at operation or at necropsy, and frequently not until the specimen had been examined in the laboratory. The marked inflammatory condition of the surrounding tissues with consequent tumefaction of the tissues, together with the local peritonitis, makes the lesion appear like a new growth; in fact, this was the diagnosis most frequently made at the time of operation and accounted for the attempts on the part of the surgeon to resect the colon.

Because of the difficulty in diagnosis and the fact that operation is performed in these cases after perforation has occurred, the prognosis is extremely unfavorable. The mortality in the reported cases has been 75 per cent, death being due usually to peritonitis.

Treatment is essentially surgical and, the earlier this is done, the better the possible outcome. Three different methods can be and have been used at the time of operation: (1) sewing over of the diseased portion by turning it in; (2) excision of the ulcer and sewing over of the intestine; (3) ileocecal resection. When the diagnosis of ulcer is made at operation, the first or second method seem to offer the possibility of a better outcome. In both Levy's and Loupault's[3] cases, simple suturing over of the ulcer by turning it in was followed by operative recovery and a subsequent favorable clinical course. However, since diagnosis is not always possible even at operation and when conditions are found unfavorable for the other types of operation, ileocecal resection may have to be resorted to.

SUMMARY

An unusual and rare instance of perforating simple or nonspecific ulcer of the ascending colon occurred in a man of 53 who at the time of admission and operation presented symptoms and signs closely simulating acute appendicitis. Grossly, the lesion found resembled the peptic ulcer of the stomach and duodenum and, in

1. Levy, A.: Deutsche Ztschr. f. Chir. **165**: 366 (Aug.) 1921.
2. Moll, W.: Zentralbl. f. Chir. **53**: 2274 (Sept. 4) 1926.
3. Loupault: Rev. de chir. **58**: 480, 1920.

the reported cases, has a similar obscure etiology. A differential diagnosis from acute appendicitis is practically impossible, the diagnosis in all reported instances having been made either at the time of operation or at necropsy. The prognosis is extremely unfavorable, death resulting from peritonitis in 75 per cent of the cases. Treatment is surgical—if the condition is recognized at the operating table simple suture of the ulcer or excision and suture may be done. Otherwise, ileocecal resection is the only alternative.

1530 Locust Street—1910 Pine Street.

GONOCOCCAL BACTEREMIA IN A WOMAN, WITH APPARENT CURE BY SURGICAL INTERVENTION

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AND
NELSON W. CORNELL, M.D.
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NEW YORK

The case described in this article was one of intermittent gonococcal bacteremia in a woman, in which positive cultures were obtained from the genital organs (cervix, uterine cavity and tubes) without any evidence, either gross or microscopic, of a local acute inflammatory reaction. A thorough search of the literature failed to reveal a similar case treated surgically. In the majority of the cases in the literature, the bacteremia had followed an acute gonorrhea. The treatment of this case by surgical means apparently opens up a new field in the therapy of this disease. The history of the case in detail is as follows:

REPORT OF CASE

N. H., a woman, aged 19, single, born in the United States and employed as a bottle filler, was admitted to the New York Hospital, first medical division,[1] June 6, 1928. Her chief complaints were of pains in the left arm and left thigh with a rash on the arms, shoulders and legs of one week's duration. The present illness had begun one week previous to admission, when she had caught cold, developing a sore throat, general malaise and a slight cough. She had a pain in the left calf but worked until three days before admission, when she felt worse, with pains in her left arm and thigh. At the same time a rash appeared on her arms, shoulders and legs. She had no appetite and vomited two or three times. The pains in her left arm and leg abated, while the right arm and left forearm became painful and tender. She had been in bed for three days prior to admission.

The family history was negative.

The past history did not include any serious illnesses. Appendectomy for chronic appendicitis had been performed in 1927, and tonsillectomy at 9 years of age. Menstruation began at the age of 13, was of a twenty-eight day cycle and lasted seven days, with some dysmenorrhea. The last period had occurred, May 30, five days late. The patient stated that she had never had intercourse or any venereal disease.

On examination the patient, who was in bed, appeared acutely ill, with flushed cheeks and an irregular mottling of the face and neck and with herpes of both lips. The weight was 130 pounds (59 Kg.). The nose showed a purulent discharge in the left middle meatus and left olfactory fissure. The lungs were clear. The apex impulse of the heart beat was quick, slapping and palpable in the fourth intercostal space, 7 cm. to the left of the midline. At the apex the first sound was loud and prolonged and followed by a systolic blow. In the second left interspace a soft systolic murmur was heard.

The abdomen was normal.

The left wrist was swollen, red and tender over the dorsum. It was acutely painful on motion. On the right arm the muscles of the forearm were exquisitely tender, and there was a red, indurated swelling along the radial border on the dorsum of the forearm. The calf muscles were very tender on pressure.

The back showed spasm of the left lumbar muscles, which were tender on pressure.

Examination of the skin showed herpes on the lower lip at the left corner and on the right side of the upper lip. There were erythematous and faintly purpuric irregular spots on the face, neck, shoulders and upper part of the chest which had a mottled appearance. There was a papular eruption over the sacrum. On the surface of each forearm was a rounded, circumscribed, indurated, slightly elevated, reddened area about an inch in diameter, which was exquisitely tender.

The following are extracts from the house physician's bedside notes:

June 9, the purpuric rash had faded. The left wrist was markedly swollen, red and tender.

June 13, the right hand was swollen, the left was all right. The patient was receiving 180 grains (12 Gm.) of sodium salicylate twice daily.

June 19, there was a sharp rise in temperature to 105.4 F., with headache and nausea, followed by a diffuse eruption of small reddish papules, surrounded by a narrow zone of erythema. No true petechiae appeared.

June 21, there was a second sharp rise, with the spots more accentuated.

June 22, the papular rash had practically faded.

June 28, there was a third rise in temperature.

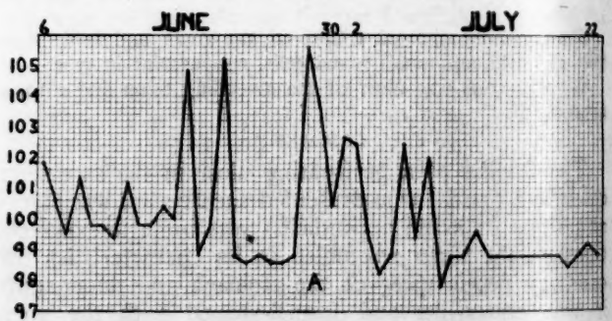


Chart 1.—Record of temperature readings during initial stages of illness prior to operation: *A*, menstrual period due.

July 10, pelvic examination by Dr. Hawks was negative for any evidence of pelvic inflammatory disease. There was a slight discharge from the cervix.

At this time the blood culture taken on June 29 was pronounced definitely positive for gonococci. A smear from the cervix revealed many intracellular gram-negative diplococci, while a culture taken from the cervix showed numerous colonies of gonococci.

There were subsequent rises in temperature preceding the menstrual period. Blood cultures were taken at these times, some of which were positive while others were negative. In view of the fact that a definite diagnosis of gonococcal bacteremia had been made and that gonococci were found in abundance in smears and cultures taken from the cervix uteri, it was urged that surgical steps be taken to eradicate the focus in the genital tract, if possible. As all similar patients in the New York Hospital had died, without surgical intervention, it was thought that such a procedure could do no harm.

Consequently, following several weeks of careful observation, the patient was transferred to the first surgical division, and left salpingectomy and oophorectomy, with cauterization of the cervix, were done, August 10. The cervix showed considerable erosion about the external os; there was a heavy mucoid discharge from the cervical canal. The uterus was of normal

1. The authors are indebted to the house physician of the first medical division for accurate daily records.

size; both tubes looked somewhat kinked but did not contain pus. The patency of both tubes was determined by carefully passing a probe through them into the uterine canal. The left tube and ovary seemed to have some old inflammatory bands about them, while the veins in the ovarian ligament seemed larger than in the right. There was no definite venous thrombosis of the ovarian vessels nor of the vessels in the broad ligaments.

The cervix was cauterized by endothermy. The left tube and ovary were removed. A culture was taken from the right tube. Further exploration revealed a spleen about four times its normal size and soft in consistency.

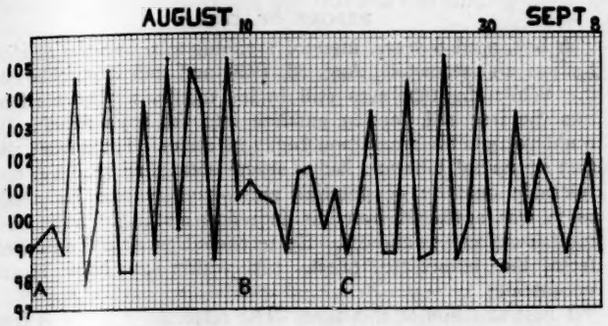


Chart 2.—Temperature curve after first operation: *A*, menstruation begun; *B*, first operation; *C*, menstrual period due.

Following operation, the patient had a normal immediate postoperative recovery, until just before time for her next menstrual period, when the temperature again went up and continued high, as shown in the accompanying charts. In desperation, it was decided to do a curettage of the uterine cavity, which had been omitted at the first operation. This was done, followed by a uterine douche with a solution of iodine, 1 : 1,000.

After the curettage the patient had a rise in temperature for only one day, fifteen days after the operation. A blood culture at this time was negative. Following this single rise, the temperature came down to normal and so remained until her discharge from the hospital.

The following pathologic report was made by Dr. Dalldorf: The tube was swollen, soft and irregular in outline, with soft, spongy outer coats. The ovary was normal grossly. A section of the tubal wall formed an unusual picture. Essentially the lesion consisted in an early diffuse catarrhal inflammation most evident in the wall. Here foci of polymorphonuclears were seen, chiefly about the small vessels of the serosal coat. There was much edema present. A diagnosis of acute catarrhal salpingitis was made.

A further report on the sections of another portion of the tube showed a similar picture. The lesions appeared focal in nature. They were small and were found especially about the vessels. None of the vessels were thrombosed, though most of them contained many polymorphonuclears. In the foci formed of serum and leukocytes a few intracellular diplococci were identified.

In the bacteriologic study of this case, fifteen blood cultures were made. Five of these showed a pure growth of a gram-negative diplococcus having the cultural characteristics and fermentation reactions of the gonococcus; ten showed no growth during incubation of from two to three weeks. The mediums employed were 100 cc. of standard beef infusion broth p_H 7.3; 100 cc. of the same broth, to which 0.2 per cent dextrose and 5 Gm. of calcium carbonate were added; and two blood agar plates containing 1.5 cc. of the patient's blood and 12 cc. of standard infusion agar. Each of the broth flasks was inoculated with approximately 5 cc. of the patient's blood. In the positive blood cultures growth appeared, after from two to four days' incubation, as a rather delicate, granular film partly covering the surface of the broth. In two of these cultures the blood agar plates did not show growth; in the other three, a few characteristic grayish moist colonies of gonococci appeared on the surface of the medium. The positive blood cultures were obtained, June 29, July 27, July 30, August 9 and September 11. The negative blood cultures were secured, June 10, 14, 18 and 21, July 7, August 15 and 28, September 26 and 27, and October 23. The positive blood cultures of June 29 and July 27 and 30 were coincident with the patient's menstrual periods. The culture of September 11 preceded the period by one week. Attention is called to the fact that the operation performed, August 10, did not cause a permanent disappearance of organisms from the blood stream. After the curettage, September 12, however, no further positive blood cultures were obtained. The gonococcus was also isolated in cultures from the cervix, July 6 and October 8; from the lumen of the left fallopian tube, August 10, and from material curetted from the uterus, September 12.

COMMENT

In the past five years there have been seven cases of gonococcal infection, with positive blood cultures, in this hospital; four were in women and three in men. Five of these patients died; one left the hospital six weeks ago and has made a satisfactory recovery following curettage, cauterization of the cervix, and removal of both tubes. This patient was operated on by Dr. John H. Garlock of the second surgical division, and a detailed report will be made by him later. The seventh case is the one reported in this paper.

Four of the five fatal cases presented definite evidence of involvement of the endocardium, and all blood cultures taken were positive. The fifth patient, an unmarried woman, aged 22, did not show convincing signs of endocarditis. She had been ill for five weeks before admission, with chills, fever and pains in the joints. Her course was a stormy one, the temperature ranging from 97 to 106 F., with frequent profuse sweats, arthritic pains in various small joints, and an intermittent petechial eruption. She died three weeks after admission. In this case two of the blood cultures were positive for gonococci and two were negative. Gonococci were also isolated from cultures of the urine and from the cervix. No surgical intervention was attempted.

The two patients that survived and the one just described appear to belong in a different category from the other four. The important difference between the two groups lies in the fact that in the former some of

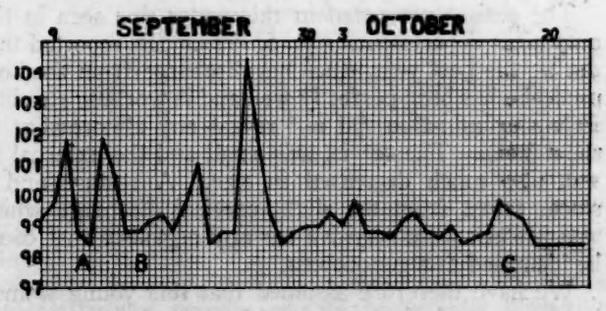


Chart 3.—Changes in temperature noted after second operation, showing the decline to normal within fifteen days of the curettage; *A*, second operation; *B*, menstrual period due; *C*, menstrual period due.

the blood cultures were positive and some were negative, while in the latter all blood cultures were positive. When negative cultures alternate with positive ones, it is probable that the organisms are not constantly present in the blood stream but are introduced at intervals from some infected focus. If this focus can be discovered and if it is possible to eradicate it by surgical means, the patient has a good chance of recovery. When there is definite evidence of involvement of the heart valves, the prognosis is poor.

It is sometimes difficult to determine the source of the infection in these cases. Four of the patients who died gave clear histories of one or more attacks of gonorrhea. The other three gave no history of an antecedent gonococcal infection. Two were unmarried and stated that they had never had intercourse. Physical examination indicated an apparently intact hymen; yet gonococci were isolated from the cervix of both individuals. Although this organism, when present in the blood stream, was capable of causing severe constitutional reactions, resulting in death in one instance, it had, apparently, little tendency to incite a local inflammatory process, since the histories, symptoms and physical signs did not indicate any severe or extensive involvement of the tissues of the genital tract. This evidence of low virulence of the organisms or of increased local resistance of the tissues suggests that the gonococcus may have been present for a long time, possibly since childhood. It is conceivable that the organism causing gonococcal vaginitis in children may, in rare instances, survive in a relatively avirulent state, and that later some severe local or general disturbance may impart to it new invasive powers.

Blood vessel changes are probably the important factors in intermittent bacteremia of the type described here. In this patient gonococci were demonstrated in material from the cervix, endometrium and left fallopian tube. They may have invaded the underlying tissues and caused an inflammatory process of sufficient intensity to bring about a partial or complete occlusion of subsurface blood vessels. While the genital organs were quiescent, the gonococci remained in these obstructed vessels. At the menstrual period, the greatly increased blood flow in the tissues in this locality forced the organisms out into the general circulation. Cases of intermittent streptococcal bacteremia due to infected thrombi are not infrequently encountered.

The beneficial effects of the operations may be attributed to the removal or destruction of organisms, on or near the surface, by curettage and the cautery. The cellular reaction set up in the deep tissues by these irritative procedures was responsible for the disappearance of the remaining organisms.

The patient presented in this paper was seen in the outpatient department, Sept. 5, 1929. She reported that during the past year, since her discharge from the hospital, she has been perfectly well and is working steadily. Pelvic examination did not reveal any abnormality in the adnexa. The cervix was small and the external os was also much decreased in size. A culture and a smear taken from the slight cervical discharge which was present were negative for any organism that could be identified as a gonococcus.

We have therefore assumed that this young woman has been cured of a gonococcal bacteremia by the surgical procedure described.

CONCLUSIONS

Intermittent gonococcal bacteremia, in women, indicates a transient invasion of the blood stream by organisms developing in some more or less circumscribed infected area.

The local disturbances caused by this infection are not prominent factors in the clinical history of the case.

Proper surgical treatment of the infected focus has, in two instances, resulted in a complete cure.

601 West One Hundred and Fifty-First Street—1045 Park Avenue.

Clinical Notes, Suggestions and New Instruments

THE EFFECT OF LIQUID GASOLINE ON PULMONARY TISSUE

J. C. S. BATTLEY, M.B. (TOR.), PORT HURON, MICH.

The case of pneumonia presented here, following the accidental aspiration of gasoline into the lungs, is unique in that a similar record has not been found in the literature.

REPORT OF CASE

A boy, aged 8 years, inserted a rubber tube into the gasoline tank of an automobile, Aug. 30, 1929, and sucked gasoline into it. While the tube was still in his mouth, a playmate blew into the free end, forcing gasoline into the boy's mouth. He could not get his breath and began to choke. The parents said that he turned blue and had a severe strangling spell. A considerable quantity of gasoline must have entered his mouth, as it was spattered over his face and clothing. Some of it must have been swallowed. He recovered, weak and exhausted, from the immediate effect, but within an hour became unconscious.

I first saw him at this time. The respiratory rate was from 8 to 10 a minute with short inspiratory gasps and long wheezing expirations. The skin was ashen and the lips, ears, fingers and toes were blue. The pupils were widely dilated and did not react to light. The jaws were tightly closed and had to be opened forcibly. The throat was full of mucus, and the mucous membrane was so swollen that little air could pass. On auscultation, scattered large moist râles were heard. The heart and abdomen were normal. The rectal temperature was 100 F. and the pulse 120.

Mucus was swabbed out of the throat and ephedrine solution was applied. Oxygen was given continually for four hours. The breathing and color improved and in two hours the child showed signs of returning consciousness. In four hours he was completely conscious with free, though rapid and labored, respirations. He asked for water and could swallow well.

The only pertinent point in the previous history was that the patient had suffered from pneumonia four times, having had an attack before 1 year of age, one at 1½ years following whooping cough, one at 2 and one at 3 years.

August 31, the respiration was 80, the pulse rate 140, and the temperature 103 rectally. The patient was slightly cyanosed, especially his face, hands and feet. He complained of pain over and below the costal margin. Breathing was shallow and breath sounds were rough everywhere with a prolonged expiratory sound. The pulse was weak and easily compressible. At both bases, but more marked on the right side, there was bronchial breathing and a few moist râles. The abdomen was slightly distended.

September 1, the respiration was 56, the pulse rate 140, and the rectal temperature 101. Cyanosis was less and the pulse was stronger and fuller. Distress was felt over the right costal margin and in the adjacent abdominal wall. A tender liver extended 5 cm. below the rib border. The spleen was not felt. Bronchial breathing was more marked at the right base. Sounds suggesting a friction rub were heard but no râles. The white blood count was 22,000, with a differential count of 86 per cent neutrophils, 10 per cent small lymphocytes and 4 per cent large mononuclears.

September 2, the respiration was 40, the pulse rate 120, and the temperature, rectally, 100. At the right base a large area of bronchial breathing was heard; at the left base the sounds were less bronchial. The patient's face was flushed, and he complained of abdominal pain. Urinalysis showed a specific gravity of 1.020, a trace of albumin, and no sugar; microscopic examination was negative.

September 4, the temperature orally was 101. The base of the right lower lobe was clearer, but bronchial breathing was present at the apex. The left base was clear.

September 6, the respiration was 48, and the oral temperature 99. The base of the right lower lobe was flat with a

border suggesting fluid. The sounds were intensely bronchial. The white blood count was 20,000. An aspirating needle was inserted at the angle of the right scapula but no fluid was obtained. The depth of insertion was sufficient to puncture the lung and it was felt that this did occur, for a few drops of bloody fluid were drawn into the syringe. No organisms were found microscopically and ninety-six hours' incubation showed no growth.

September 8, the respiration was 36, the pulse rate 100, and the oral temperature 100. During the past two days the consolidation at the right base had broken up considerably. The mother volunteered the information that the boy said he had tasted gasoline several times and that she had smelled it on his breath.

September 11, the respiration was 36 and the temperature by mouth 100. An area of bronchial breathing had appeared and disappeared at the right base in the past two days. The liver was now at the costal margin.

September 18, the respiration was 28 and the temperature 99 by mouth. A few râles were heard at the right base. There was a loose cough but no expectoration. Urinalysis was normal. The boy continued to taste gasoline.

September 27, the temperature had been normal for the past week. The lungs were clear except for a few râles at the right base. The patient still noticed the taste of gasoline.

October 4, a few râles were present at the right base. The patient was well, though weak. He had ceased to taste gasoline.

October 17, a few râles were heard at the right base on deep inspiration.

November 9, fine râles were still present at the base of the right lung. Otherwise the patient was in excellent condition and had returned to school.

COMMENT

The pharmacologic action of gasoline is given scant attention in most textbooks. Solis-Cohen and Githens [1] have, however, treated it at length, but with no reference to the effect of liquid gasoline on pulmonary tissues.

They describe the effects of gasoline as follows: Taken by mouth in large quantities, it is vomited. Small amounts are slowly absorbed and some may be found in the stomach hours after ingestion. When inhaled as a vapor it is rapidly absorbed from the lungs and carried to the nerve centers. It is not destroyed in the body but is excreted unchanged almost wholly by the lungs. None can be found either in the urine or in the stools although, if peristalsis is very active, small amounts may be lost by the bowel before absorption has occurred. Children are more susceptible than adults, and a small amount when swallowed has caused death in those less than 3 years of age. The effects of gasoline are limited almost entirely to the nerve tissues. The most constant symptom is frontal headache and a sensation of constriction about the head. Great weakness of the voluntary muscles, tremors and rigors may be present. Inhalation of concentrated fumes may cause complete narcosis, deep coma and labored respirations. Slower and slower breathing follows with asphyxia, cyanosis, dilatation of the pupil, and even death from respiratory failure. After absorption from the digestive tract there may be congestion and irritation of the lungs by the fumes generated during the process of elimination.

Haggard [2] studied the effect of the inhalation of gasoline vapor on animals. Its action is that of an anesthetic similar to ether but with marked convulsant effects. The excitement stage of gasoline anesthesia is marked by convulsions. The range between consciousness and death is very narrow.

In the case reported it would seem that the immediate effects resulted from absorption of gasoline from the lungs rather than from the stomach. It is probable that only a small amount was swallowed, as there was no vomiting. A rapid absorption by the pulmonary tissue must have occurred. The chief interest lies in the subsequent effect of the gasoline on the lungs. Certain characteristics marked the pneumonia: (1) a low temperature; (2) a prolonged high respiratory rate; (3) wandering of the pulmonary signs; (4) a taste of gasoline in the mouth for four weeks; (5) a sterile culture after lung puncture.

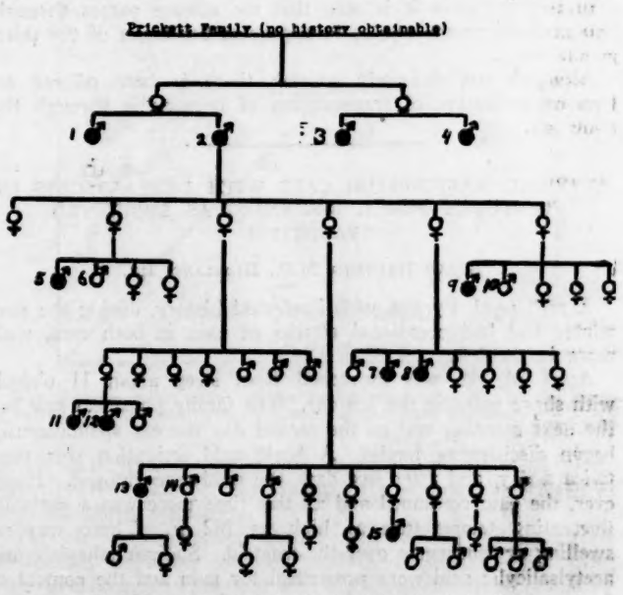
The fact that the patient tasted gasoline for four weeks showed that it must have remained in the lung in some quantity during this time. The lengthy nature of the illness was owing, most likely, to prolonged contact of the gasoline with the lung tissue. The portion that entered the blood stream causing narcosis would be rapidly eliminated and would account only for the early effects. The wandering nature of the signs suggests that two processes were at work. Direct action of the gasoline on the alveolar walls, with subsequent secondary infection, could account for the pneumonia. During the time it was in the lungs it might shift to other parts, starting fresh areas of inflammation. Then, atelectasis could produce a similar picture. Swelling of the bronchial mucous membrane, caused by the traumatic effect of the gasoline, might shut off portions of the lung. Resulting atelectatic patches might remain sterile, as suggested by the sterile lung puncture, but would more likely become infected secondarily. This process might be repeated at other points owing to the shifting of the gasoline.

1. Solis-Cohen, Solomon; and Githens, T. S.: Pharmacotherapeutics, Materia Medica and Drug Action, New York, D. Appleton & Co., 1928, p. 427.
2. Haggard, H. W.: The Anesthetic and Convulsant Effects of Gasoline Vapor, J. Pharmacol. & Exper. Therap. 16:401 (Dec.) 1920.

THE TRANSMISSION OF HEMOPHILIA *

C. A. MILLS, M.D., CINCINNATI

Bullock and Fildes,[1] in their monograph on hemophilia, gave a critical review of all reports in the literature dealing with the transmission of this disease. They supported the law promulgated by Nasse [2] in 1820 that hemophilia was transmitted only through the female members of affected families but appeared only in the males. The reports of its apparent transmission through the male they discarded on the ground that it may have been introduced by unaffected females from unknown but affected families marrying into the family under observation. This point is not susceptible of proof one way or another, but on the basis of the work of Nasse and of Bullock and Fildes, practically all textbooks dealing with hemophilia now define it as an abnormal tendency to bleed, appearing only in the male sex, usually early in life, but transmitted only by the unaffected females.



Genealogy of Prickett family (no history obtainable)

In this connection I present the family tree of an affected family living in a rural district of southern Ohio. Two sisters, unaffected, with the past history unobtainable, had each two sons, all four boys being bad bleeders throughout life. The family tree of the descendants of only one of these four boys is

* From the Department of Internal Medicine, University of Cincinnati.
1. Bulloch, W., and Fildes, P.: Hemophilia, Memoirs 12, Eugenic Laboratory, University of London, 1911.
2. Nasse: Arch. med. Erfahr. 1:385, 1820.

available. This one married a woman who was in no way related to him and who had no known bleeding in her family. Throughout the subsequent history of the family there were no marriages with outsiders who were in any known way connected with the disease. This family was the only one in that locality with hemophilia. Yet among the thirty-one female and twenty-five male known descendants of this one hemophilic man there were eight males with undoubted hemophilia and three open to question. No females were affected, but transmission, except in the one instance, was always through them.

The history as obtained for the abnormal family members is as follows (the numbers refer to individuals as shown in the family tree):

1. Known as a bleeder all his life.
2. Known as a bleeder all his life.
3. Bad bleeder, finally dying of postoperative hemorrhage.
4. A bad bleeder all his life.
5. Bleeder from age of 2 years; frequent attacks.
6. Had only one severe hemorrhage, following tooth extraction.
7. Bad bleeder; died at age of 3½ years of hemorrhage.
8. Bleeder from early childhood.
9. Bleeder from early childhood.
10. Died in infancy; no history obtained.
11. Bleeder since early childhood.
12. Bleeder since early childhood.
13. Bad bleeder, beginning at 10 years of age.
14. One hemorrhage only.
15. Bleeder; detailed history not obtained.

In two instances it is seen that the disease passes through two generations of females to appear in the males of the third generation.

Although not definitely proved, there is here offered an instance indicative of transmission of hemophilia through the male sex.

ATYPICAL MASTOIDITIS: CASE WITH DEEP ABSCESS IN TEMPORAL FOSSA, BEGINNING AS SUSPECTED PAROTITIS

EWALD HERMANN, M.D., HIGHLAND, ILL.

A girl, aged 8 years, with irrelevant history, during the past winter had had occasional attacks of pain in both ears, with more in the left.

April 28, she was awakened from sleep about 11 o'clock with sharp pains in the left ear. The family physician saw her the next morning and on the second day the ear spontaneously began discharging freely. A boric acid irrigation was used twice a day, and after five days the discharge stopped. However, the pain continued and all this time there was a variable, fluctuating temperature as high as 102 F. There was no swelling or tenderness over the mastoid. Sodium salicylate and acetylsalicylic acid were prescribed for pain and the control of fever. As soon as the discharge stopped, a swelling was noticed just in front of and on a level with the external auditory canal. This swelling extended anteriorly upward and above the ear.

May 10, I saw the patient in consultation. A large area of swelling with no fluctuation or localized area of redness extended from in front of the ear upward and above the ear about an inch. There was no swelling or marked tenderness over the mastoid, although some pain was evident on percussion over the mastoid. The membrane was gray, lusterless and thickened. There was no perforation and no localized bulging. The membrane was anesthetized and incised in the lower anterior quadrant. Potassium permanganate, 1:10,000 solution, was used as an irrigation three times a day; also ephedrine, 1 per cent, in each nostril three times a day. Hot applications were placed over the mastoid area continuously.

I did not hear from the patient again until June 4, almost a month later. The swelling had increased, extending well upward and anteriorly from the ear. There was no fluctuation and redness just above and anterior to the upper level of the lobe of the ear. There was no swelling over the mastoid, and the membrane remained unchanged. A roentgenogram showed cloudiness of all the mastoid cells on the left side.

June 6, a simple mastoid incision was made and also an incision over the area of fluctuation down through the periosteum, the latter incision yielding about half an ounce of greenish pus. The mastoid showed complete involvement, including the tip. Communication was easily established from the mastoid wound anteriorly to the area of fluctuation. A thorough exenteration of all mastoid cells was made and a through and through iodoform strip was inserted. The mastoid was packed with iodoform gauze.

The child made a slightly prolonged, although otherwise uneventful recovery, with a dry ear.

CESSATION OF LOCALIZED EPILEPTIC CONVULSIONS IN INOPERABLE CASES AFTER PUNCTURE OF THE LATERAL VENTRICLES

ALFRED GORDON, M.D., PHILADELPHIA

In a previous communication,[1] reference was made to persistent epileptic convulsions in a case of hydrocephalus which disappeared after the withdrawal of small amounts of cerebrospinal fluid from the lateral ventricles. In the present contribution, another instance is described in which the same procedure was followed by excellent results during four whole years after the last attack. The object of placing it on record is to emphasize again the already expressed opinion that, while the reception of stimuli and the discharge of muscular spasms in epilepsy are the province of the motor cells in the cortex, nevertheless the original sources of stimulation present a large field of localizations in the brain between its anterior and posterior poles and the site of the lesion may not necessarily be in the motor area itself. The case reported here has its especial value from this particular point of view; also on therapeutic grounds it leads to a line of conduct worth repeating.

REPORT OF CASE

B. H., a boy, aged 14 years, commenced to have convulsive attacks on the left side of the body at the age of 6. Up to the age of 10 the attacks were frequent, averaging four or five a week. They were typical of those encountered in focal lesions of the brain. They consisted of loss of consciousness preceded by a physical aura (paresthesia in the left hand), tonic and clonic muscular twitchings in the left arm and leg, biting of the tongue, and froth at the mouth. The attacks were invariably on the same side. The boy presented some physical stigmas of morphologic inferiority, such as a high arched palate, extremely defective dentition, overlapping of the jaws, deformed ears, strabismus, a narrow forehead, scoliosis, and an undescended testicle. He was extremely emotional, suffered from hyperacusis, was restless and very aggressive, and had tantrums in which he would become destructive and at times dangerous.

He came under observation at the age of 10. His mental age was 5; he showed an extremely inimical attitude to strangers, used profane language, and was unclean about his body. He was unable to acquire knowledge in spite of the efforts on the part of teachers; the regular schools declined to have him as a pupil.

A neurologic examination did not reveal any localized phenomena that would indicate a focal cerebral or spinal lesion: the reflexes, sensations, pupillary reaction and sphincters were all normal. Roentgen-ray examination did not reveal any abnormality in the skull, and the sella turcica was normal. Urinalysis was negative. Blood examination showed: hemoglobin 85 per cent; red cells 4,500,000; white cells 7,000; polymorphonuclears 60 per cent; small lymphocytes 48 per cent; large lymphocytes 6 per cent, and transitionals 7 per cent. The Wassermann reaction of the blood and spinal fluid and the colloidal gold reaction were all negative. Examination of the eyes did not show any gross pathologic changes except for the presence of some fulness of the blood vessels in both retinas.

The family history showed that the patient was born at term and normally. He was extremely small at birth, and later had had whooping cough, scarlet fever and pleurisy—all before the age of 5. During the fifth year his general health was

1. Gordon, Alfred: Hydrocephalus with Cessation of Persistent Epileptic Convulsions After Puncture of the Lateral Ventricles, J. A. M. A. 88: 1234 (April 16) 1927.

good. He then gained in weight and became stronger. The convulsions commenced at 6 years of age. The parents were in fairly good health. The father's brother had had epilepsy and his sister had had chorea at 16, which lasted one year. The mother's mother had died in an apoplectic attack.

The patient, according to the parents, had had a great deal of medicinal treatment before he came under my observation. Antisyphilitic treatment was then instituted with apparently fair results at first. Phenobarbital was given continuously. Soon, however, the attacks returned with the same frequency. Radical operative procedures were then proposed in view of the strict limitation of the convulsive seizures on the left side of the body. An osteoplastic operation was rejected by the parents, but a unilateral puncture of the right lateral ventricle was eventually accepted. Accordingly a small trephining was performed at about 2 inches back of and 1 inch above the right external auditory meatus. The needle was introduced into the posterior horn of the ventricle and 6 cc. of fluid was removed. A decided improvement followed. In the first five days the patient had one mild attack of the same character as before. The improvement continued. On the twenty-fourth day there was another slight attack and only in the left arm with preservation of consciousness. Finally the attacks disappeared completely. It is now four years since the operation and there has not been a single seizure. The boy's mentality has greatly improved. He commenced to acquire knowledge with facility and is making uninterrupted progress in that direction. The only problem that confronts us now is the alteration of the character and disposition described. Although to a much lesser degree, the patient nevertheless remains aggressive, restless and emotional. At the time of writing, his physical and mental health is markedly good.

COMMENT

The recording of this case appears justified by the encouraging neurosurgical results and, as in the previous contribution,[1] by the problem of the pathogenic considerations of epilepsy. There is here strong presumptive evidence in favor of an intraventricular causative condition. The unilaterality of the convulsive seizures and their disappearance for four whole years after the removal of some of the contents of the lateral ventricle on the opposite side of the brain argue for a diagnosis of an acute ependymitis or an acute inflammation of the choroid plexus in one hemisphere. Therein lies the morbid focus which was influencing the cortical motor cells in the causation of the epileptic convulsions. In another contribution on the pathologic aspect of some epilepsies [2] one striking anatomicoclinical example was described in which an epileptic patient presented post mortem an original inflammation of the choroid plexus followed by hemorrhages within them to the exclusion of any other lesion in the brain. In the other case of epilepsy the ependyma was found partly destroyed and partly thickened, and covered with numberless miliary nodules of a necrotic character. In all such cases the villi of the choroid plexuses, which are constantly brought into contact with the diseased ependyma of the ventricular walls, produce an irritation in the brain and through the process of diffusion of the stimulus to the cortex along association or commissural fibers lead to reactions such as epileptic convulsions. Not only the lining of the ventricular walls or the choroid plexuses but a pathologic state of the physical properties of the cerebrospinal fluid in the ventricles may play an important part in cerebral irritation resulting in convulsive seizures. It seems that the excellent results obtained from the withdrawal of a certain amount of such a fluid from the lateral ventricles as evidenced from the present report are due to this small surgical procedure. It is also highly probable that the marked improvement in cases of epilepsy among other conditions obtained by W. J. Gardner [3] from his encephalographic investigations, in which the removal of some cerebrospinal fluid was followed by the injection of air, was due to the former.

Finally, it is suggested that the practical value of the neurosurgical procedure described here deserves especial emphasis in cases of convulsive seizures which do not yield satisfactory results with other therapeutic attempts. More frequent recourse to that procedure is earnestly invited, especially by virtue of the underlying anatomicophysiologic proofs supplied in the present and other contributions.

1812 Spruce Street.

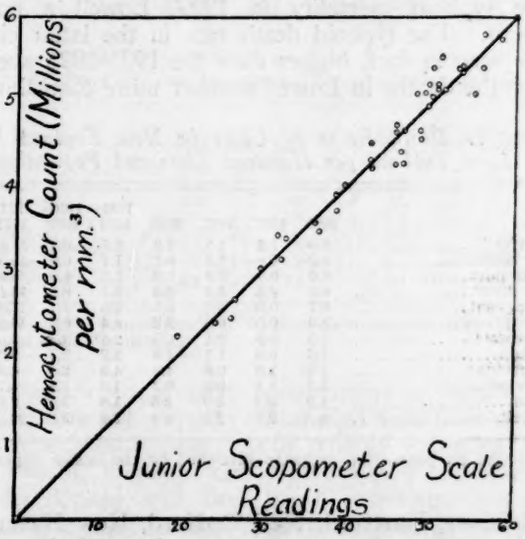
2. Gordon, Alfred: The Pathologic Aspect of Some Epilepsies, Arch. Int. Med. **44**: 142 (July) 1929.
3. Gardner, W. J.: Pennsylvania M. J. **33**: 126 (Dec.) 1929.

A NEW METHOD OF COUNTING RED BLOOD CELLS *

WILLIAM G. EXTON, M.D., NEW YORK

Notwithstanding improvements in hemacytometers and photographic methods,[1] red blood cell counting is usually regarded as the most tedious of all routine clinical pathologic procedures. It is, however, an easy matter to count red blood cells by measuring their turbidities in suspensions, and counts made by scopometry [2] are in excellent agreement with hemacytometer counts on the same specimens, as shown in the accompanying chart.

To count the red cells, one should dilute the blood 1:1,000 with a solution consisting of 2 per cent sodium citrate and a diluted "solution of formaldehyde-U. S. P." (1:10), which keeps them in good condition at room temperature. To do this easily, the blood may be collected and diluted 1:100 in the usual hemacytometer pipet and then diluted again 10 times. After gentle mixing, the turbidity of the sample is measured with the junior scopometer.[3]



Red cell counts by means of the junior scopometer and of the hemacytometer, showing excellent correlation on the same specimens.

The simple scopometer measurement wholly eliminates the microscopy of blood counting, and the technic is even more rapid and accurate when done with the photo-electric scopometer.[4]

135 Central Park West.

* From the Laboratory and Longevity Service of the Prudential Insurance Company, Newark, N. J.

1. Exton, W. G.: The Euscope as an Aid to Microscopy, J. A. M. A. **82**: 1838-1840 (June 7) 1924.
2. Exton, W. G.: Scopometry, Arch. Path. **5**: 49-65 (Jan.) 1928.
3. Exton, W. G.: The Junior Scopometer, J. A. M. A. **92**: 708-712 (March 2) 1929.
4. Exton, W. G.: The Photo-Electric Scopometer, Transactions of the Association of Life Insurance Medical Directors, 1929.

The Essence of Research.—It is only within modern times that research activity has attained a social importance which is not merely incidental to the older pursuits, religion, philosophy, education, politics, war and commerce. Its present dignified position can be traced to the recent epochal advance in the physical and biological sciences. It is clearly a phenomenon of growth. If physics should ever reach such a stage that all a student's time would, in the judgment of teachers, need to be consumed in catching up to what the past had bequeathed, then physical research and experimentation in its truest meaning would languish. The essence of research is evolution.—Kelley, T. L.: Scientific Method, Ohio State University Press, 1929, p. 1.

Special Article

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES IN 1929

EIGHTEENTH ANNUAL REPORT [1]

This report concerns the same eighty-one cities of more than a hundred thousand population that were discussed in the reports for 1927 and 1928.[2]

Two of the twelve New England cities had no deaths from typhoid during 1929 (table 1), a record made once before by both cities (Hartford in 1924, New Bedford in 1922). Both Fall River and Springfield report that the only typhoid deaths occurring within the city limits were those of nonresidents. Bridgeport has maintained a remarkably even rate for four years (one death annually in 1929, 1928, 1927 and 1926). The four cities that had a clean slate in 1928 (Lowell, Lynn, New Haven and Springfield) all had some typhoid mortality in 1929, Lowell a notable amount. The typhoid death rate in the latter city in 1929 was, in fact, higher than the 1921-1925 average. Since the deaths in Lowell number more than those in Fall River, Hartford, New Bedford, New Haven and Springfield combined, with a total population nearly seven times as great, it seems probable that some special factor increasing the amount of typhoid was operative in Lowell in 1929. The rate in Boston was also somewhat higher in 1929 than in the two preceding years, the increased rate in this city being chiefly responsible for bringing the average of the New England group up to 1.32 as compared with 0.90 in 1928 and 1.26 in 1927 (table 12).

TABLE 1.—*Death Rates of Cities in New England States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Hartford	0.0	1.2	1.8	1.2	2.5	6.0	15.0	19.0
New Bedford	0.0	0.8	3.3	0.7	1.7	6.0	15.0	16.1
Bridgeport	0.6	0.6	0.6	0.6	2.2	4.8	5.0	10.3
Fall River	0.7	4.5	2.3	0.8	2.3	8.5	13.4	13.5
Springfield	0.7	0.0	0.0	0.7	2.0	4.4	17.6	19.9
New Haven	1.0	0.0	0.0	2.2	4.4	6.8	18.2	30.8
Worcester	1.0	0.5	3.1	0.5	2.3	3.5	5.0	11.8
Boston	1.6	0.6	1.1	1.8	2.2	2.5	9.0	16.0
Cambridge	1.6*	1.6	0.8	4.9	4.3	2.5	4.0	9.8
Providence	1.7	1.7	0.4	0.7	1.8	3.8	8.7	21.5
Lynn	1.9	0.0	0.9	3.8	1.6	3.9	7.2	14.1
Lowell	4.4	0.0	2.6	0.9	2.4	5.2	10.2	13.9

* Based on population estimate furnished by the health department: 127,125.

The cities of the Middle Atlantic group (table 2) make a particularly good showing. For the first time since these summaries were undertaken, the typhoid death rate for the group is lower than that of the New England group (table 12). Reading, which had a very high typhoid rate from 1906 to 1915, did not record a single fatality from this cause in 1929, breaking its own record and leading the list of cities in this group. Such an improvement must be regarded as a great achievement in preventive medicine. Jersey City, Syracuse, Newark, Rochester and Erie have very low rates, in several instances also making a new record. Yonkers, after the remarkable record of three years with no typhoid fatality, reports two deaths from this cause in 1929. Camden, for the second year in succession, brings up the foot of the list with a 1929 rate of 5.8; there seems to be no reason why Camden should usually have a higher rate than Philadelphia. Philadelphia reports for 1929 the rate of 0.7, an amazing achievement for a city not long ago one of the great typhoid centers of the country. For the second year in succession Philadelphia has done better than New York, although the latter community itself makes a new low record in 1929 (1.2). The excellent brief summaries of typhoid cases and deaths in New York in the *Weekly Bulletin* of the Department of Health (e. g., Sept. 21 and Nov. 30, 1929) show that, even with the careful investigation of each case that is always made by the New York City Department of Health, the mode of infection was not ascertainable in one third or more of the cases. During the summer months, bathing in polluted waters seems to be still an important factor, although the number of cases from this cause was less in 1929 than in 1928. A high proportion of the total cases (more than one third in 1928 and 1929) seems to have been contracted outside the city. Fifty or more cases of typhoid occurred in 1929 among New York City girls who had been spending their vacation in a summer camp in Pennsylvania.

TABLE 2.—*Death Rates of Cities in Middle Atlantic States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Reading	0.0	2.6	1.7	2.6	6.0	10.0	31.9	42.0
Jersey City	0.3*	0.6	1.2	1.9	2.7	4.5	7.2	12.6
Syracuse	0.5	0.5	1.5	1.1	2.3	7.7	12.3	15.6
Newark	0.6	1.0	1.3	1.5	2.3	3.3	6.8	14.6
Rochester	0.6	0.9	1.2	4.0	2.1	2.9	9.6	12.8
Erie	0.7	0.8†	1.5	0.8	2.3	6.9	49.0	46.6
Philadelphia	0.7‡	0.8	1.4	1.9	2.2	4.9	11.2	41.7
Utica	0.9	1.9	2.9	0.0	3.9¶			
New York	1.2	1.4	1.3	1.9	2.6	3.2	8.0	13.5
Scranton	1.4§	1.4	0.7	4.2	2.4	3.8	9.3	31.5
Yonkers	1.6	0.0	0.0	0.0	1.7	4.8	5.0	10.3
Elizabeth	1.7	0.0	0.9	1.0	2.4	3.3	8.0	16.6
Buffalo	1.9	2.3	2.4	5.0	3.9	8.1	15.4	22.8
Paterson	2.0	1.4	0.0	1.4	3.3	4.1	9.1	19.3
Trenton	2.1	2.1	1.5	2.2	8.2	8.6	22.3	28.1
Pittsburgh	2.3	3.4	1.9	2.7	3.9	7.7	15.9	65.0
Albany	3.3	0.8	3.3	0.0	5.6	8.0	18.6	17.4
Camden	5.8	4.4	0.7	4.6	5.9	4.9	4.5	4.0

* Based on population estimate furnished by health department: 329,256.
† The rate of 5.3 recorded for Erie in our table for 1928 was not correct, because of an error in the information sent us.
‡ Population estimate furnished by health department: 2,092,576.
¶ Data for 1925 only.
§ The number of Scranton typhoid deaths was furnished by the state registrar, Harrisburg, Pa.

TABLE 3.—*Death Rates of Cities in South Atlantic States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Norfolk	0.5*	1.6	1.1	1.7	2.8	8.8	21.7	42.1
Jacksonville	0.7	2.1	7.2	8.8				
Wilmington	0.8	4.7	3.2	2.4	4.7	25.8†	23.2‡	33.0
Richmond	1.5	3.1	0.0	2.6	5.7	9.7	15.7	34.0
Washington	2.3	2.7	1.8	2.5	5.4	9.5	17.2	36.7
Baltimore	2.6	3.8	1.8	4.7	4.0	11.8	23.7	35.1
Atlanta	6.5	7.4	14.0	17.2	14.5	14.2	31.4	58.4

* Population estimate furnished by the health department: 184,200.
† 1916 only.
‡ Lacks 1913.

1. The preceding articles were published, May 31, 1913, p. 1702; May 9, 1914, p. 1473; April 17, 1915, p. 1322; April 22, 1916, p. 1305; March 17, 1917, p. 845; March 16, 1918, p. 777; April 5, 1919, p. 997; March 6, 1920, p. 672; March 26, 1921, p. 860; March 25, 1922, p. 890; March 10, 1923, p. 691; Feb. 2, 1924, p. 389; March 14, 1925, p. 813; March 27, 1926, p. 948; April 9, 1927, p. 1148; May 19, 1928, p. 1624; May 18, 1929, p. 1674.

2. The deaths from typhoid in each city are those reported to us by the respective health departments. It should be noted that the figures include all typhoid deaths that have occurred within the city limits, nonresidents as well as residents. In some instances this undoubtedly gives an exaggerated impression of the amount of typhoid in a community, but at present statisticians are agreed that "the attempt to eliminate the deaths of nonresidents would often result in an understatement of the true mortality" (Bureau of the Census, Mortality Statistics, 1912, p. 13). Except where the city health department sent us an estimate of the 1929 population, as noted in the tables, the rates have been calculated on the basis of the midyear population figures for 1928 plus the 1927-1928 increment, as the U. S. Bureau of Census has not made estimates for city populations as of July 1, 1929. It is recognized that at this time, just before the decennial census, any population estimates are relatively unreliable; hence the specific rates as figured are not definite.

The cities in the South Atlantic group (table 3) without exception have lower rates in 1929 than in 1928. This brings the rate for the whole group (table 12) to a figure less than half that of 1926. Norfolk, which has had quite consistently the lowest rate in the group for a series of years, again tops the list. Jacksonville reports the remarkably good figure of 0.7 and Wilmington of 0.8. It is especially encouraging to notice that the relatively high typhoid in Atlanta is gradually yielding to the steady hammering away at milk supply and other typhoid factors. Those sanitarians who may still feel that a warm climate offers an insurmountable barrier to any sweeping reduction in typhoid need only inspect the figures of the cities in this group for the last four years to be convinced that remarkable results can be obtained by persistence in intelligently directed methods for typhoid control. Typhoid seemed firmly entrenched in these cities in 1906-1910, but in the space of twenty years it has been almost completely overthrown. The history of this group of cities abundantly justifies the conclusion that typhoid is a preventable disease and should not be allowed to scourge, year after year, any city, whatever its climate and geographic position.

TABLE 4.—*Death Rates of Cities in East North Central States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Toledo	0.3	4.8	2.9	4.7	5.8	10.6	31.4	37.5
Milwaukee	0.4	0.7	0.9	1.7	1.6	6.5	13.6	27.0
Cleveland	0.5	0.6	1.0	1.4	2.0	4.0	10.0	15.7
Chicago	0.6	0.5	0.7	0.8	1.4	2.4	8.2	15.8
Grand Rapids	0.6	0.6	1.9	1.3	1.9	9.1	25.5	29.7
Canton	0.8	0.8	0.0	3.6	3.3	8.9		
Detroit	0.9	1.0	1.2	2.2	4.1	8.1	15.4	22.8
Youngstown	1.0*	0.0	2.4	0.0	7.2	19.2	29.5	35.1
Flint	1.3	3.4	2.1	0.7	4.6	22.7	18.8	46.9
Indianapolis	1.5	3.6	1.3	5.4	4.6	10.3	20.5	30.4
Dayton	1.6	2.7	1.7	2.3	3.3	9.3	14.8	22.5
Akron	1.7	0.4	2.8	1.5	2.4	10.6	21.0	27.7†
Cincinnati	1.9	1.7	3.9	2.7	3.2	3.4	7.8	30.1
Columbus	2.3	1.7	2.0	1.7	3.5	7.1	15.8	40.0

* Population estimate furnished by health department: 189,000.
† Data for 1909 and 1910 only.

TABLE 5.—*Death Rates of Cities in East South Central States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Louisville	2.6	2.7	3.1	6.7	4.9	9.7	19.7	52.7
Memphis	6.2*	11.6	14.5	19.2	18.9	27.7	42.5	35.3
Birmingham	7.0	7.2	12.9	8.5	10.8	31.5	41.3	41.7
Nashville	12.8	15.0	16.0	35.0	17.8	20.7	40.2	61.2

* Population estimate furnished by health department: 192,515.

The East North Central cities for the second time in five years have the distinction of the lowest rate of any group in the country, 0.86 (table 12), considerably less than that for the New England and Middle Atlantic cities and better than its own previous best record. Probably in few city groups anywhere with a population as large and heterogeneous as represented here has so low a typhoid rate ever been reported. The three largest cities in this group (Chicago, Detroit and Cleveland) all report rates under 1.0 (table 4). Milwaukee continues to furnish a brilliant example of what water chlorination can do in the elimination of typhoid. Toledo spurts from the foot of the list in 1928 to the head in 1929.

The East South Central cities (table 5) again show an improvement over the preceding year, all of them having a lower typhoid mortality than in 1928. The improvement in Memphis is especially noteworthy. Nashville again has the highest rate of this group and the highest in the United States. An organized campaign against typhoid in this city would probably reduce the disease to a point at which the rates would compare favorably with those in Birmingham, where the rates have far outstripped Nashville in improvement in the last few years. There is certainly no reason why Nashville should continue to have a rate higher than Louisville, Birmingham or Memphis.

The cities of the West North Central group again make, as usual, a good showing (table 6). Duluth matches its 1928 record of no typhoid deaths, and Omaha, which twenty years ago had an average rate of 40.7, has in 1929 a rate only one-hundredth as great (0.4). St. Louis, like others of the large cities of the country, breaks its own record in 1929 with a rate (1.5) not far above that of New York (1.2). Des Moines and Kansas City, Mo., could probably reduce their typhoid rates somewhat by a little detective work.

The West South Central group (table 7) still has nearly the highest rate in any geographic division of the United States (table 12). There are signs, however, that the progressive communities in Texas and elsewhere are not going to be satisfied with their status. Tulsa has taken a long step in typhoid reduction, and Fort Worth, Houston and San Antonio are not far behind. Dallas will find itself suffering from an inferiority complex unless some definite and permanent improvement takes place before long. New Orleans has a hard problem but should be encouraged by what it has already accomplished, and especially by what has been done in such cities as Memphis, Atlanta and Louisville.

TABLE 6.—*Death Rates of Cities in West North Central States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Duluth	0.0	0.0	2.7*	0.8	1.7	4.4	19.8	45.5
Omaha	0.4	2.7	0.9	1.8	3.3	5.7	14.9	40.7
Minneapolis	0.6	0.2	0.7	1.4	1.9	5.0	10.6	32.1
St. Paul	1.0	1.3	2.8	1.2	3.4	3.1	9.2	12.8
St. Louis	1.5*	2.2	1.9	2.3	3.9	6.5	12.1	14.7
Kansas City, Kan.	2.5	1.7	0.0	4.3	5.0	9.4	31.1	74.5†
Des Moines	3.2	1.3	3.3	2.7	2.2	6.4	15.9	23.7
Kansas City, Mo.	3.2	2.3	2.9	3.5	5.7	10.6	16.2	35.6

* Population estimate furnished by the health department: 856,000.
† Lacks data for 1906, 1907.

TABLE 7.—*Death Rates of Cities in West South Central States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921-1925	1916-1920	1911-1915	1906-1910
Tulsa	2.1	3.5	8.7	14.3	16.2*			
Fort Worth	2.8	7.0	4.3	10.7	6.1	16.3†	11.9	27.8
Houston	2.8	6.0	5.6	6.0	7.6	14.2	38.1	49.5‡
San Antonio	3.1	2.3	5.7	7.8	9.3	23.3	29.5	35.9
El Paso	4.9	10.2	7.9	9.2	10.8	30.7	42.8	
Oklahoma City	6.2§	10.0	6.4					
New Orleans	9.1	7.2	8.0	18.6	11.6	17.5	20.9	35.6
Dallas	9.4	5.0	6.6	8.9	11.2	17.2		

* Lacks data for 1921 and 1922.
† Lacks data for 1918 and 1919.
‡ Data for 1910 only.
§ Population estimate furnished by health department: 160,000.

In 1929 as compared with 1928 (table 12). Spokane for the second time in its history (the other was in 1919) reports a perfectly clear record, the only other city in this group making such a record being Tacoma in 1928. San Francisco had apparently less typhoid in 1929 (1.0) than ever before. Denver

also reached its low figure of 2.0. The rates in this group are remarkably uniform.

Five of the eighty-one cities considered in this study have had no typhoid deaths in 1929 (table 9). This is a smaller number with perfectly clear records than was reported in 1927 and 1928. Twenty-eight cities, however, had a typhoid death rate of less than 1.0 in 1929 as against twenty-six in 1928 (table 10). Only one city (Nashville) had a rate of over 10.0 in 1929, as against four in each of the two preceding years. This contrasts with the average rates for 1911-1915, when fifty-five (out of seventy-five cities reporting) had rates of 10.0 or higher.

Perhaps the most remarkable feature of this year's report is the evidence it gives of the continued decline in typhoid in the United States. Not only was the typhoid death rate in a city population of approximately thirty-four million as low as 1.56 (table 11), but the actual number of typhoid deaths (531) in this population was less than half the corresponding number as recently as 1925 (1,067). Indeed, since these summaries were started in 1910, the typhoid death rate in the large cities of the United States has been cut in half with great regularity every five or six years.

During the years 1922 to 1925 it seemed as if the rate of progress was being permanently checked, but the last four years has again witnessed an astonishing improvement in typhoid mortality.

TABLE 8.—*Death Rates of Cities in Mountain and Pacific States from Typhoid per Hundred Thousand Population*

	1929	1928	1927	1926	1921–1925	1916–1920	1911–1915	1906–1910
Spokane	0.0	1.8	0.9	6.5	4.4	4.9	17.1	50.3
Salt Lake City	0.7	2.9	2.2	0.7	6.0	9.3	13.2	41.1
San Francisco	1.0	3.4	1.7	2.5	2.8	4.6	13.6	27.3
Los Angeles	1.1	1.5	1.0	1.1	3.0	3.6	10.7	19.0
Oakland	1.1*	1.1	2.2	0.8	2.0	3.8	8.7	21.5
San Diego	1.6	1.7	0.9	0.9	1.6	7.9	17.0	10.8
Tacoma	1.7	0.0	2.8	3.8	3.7	2.9	10.4	19.0
Denver	2.0	2.7	2.8	3.5	5.1	5.8	12.0	37.5
Portland	2.3†	2.1	2.1	2.5	3.5	4.5	10.8	23.2
Seattle	2.3	1.3	2.7	2.3	2.6	2.9	5.7	25.2

* Population estimate furnished by the health department: 280,900.
† Population estimate furnished by the health department: 348,845.

TABLE 9.—*Death Rates from Typhoid in 1929*

Honor Roll (from 0.0 to 1.9 Deaths per Hundred Thousand)			
DULUTH	0.0	Utica*	0.9
HARTFORD	0.0	New Haven	1.0
NEW BEDFORD	0.0	St. Paul	1.0
READING	0.0	San Francisco	1.0
SPOKANE	0.0	Worcester	1.0
Jersey City	0.3	Youngstown	1.0
Toledo	0.3	Los Angeles	1.1
Milwaukee	0.4	Oakland	1.1
Omaha	0.4	New York	1.2
Cleveland	0.5	Flint	1.3
Norfolk	0.5	Scranton	1.4
Syracuse	0.5	Indianapolis	1.5
Bridgeport	0.6	Richmond	1.5
Chicago	0.6	St. Louis	1.5
Grand Rapids*	0.6	Boston	1.6
Minneapolis	0.6	Cambridge, Mass.	1.6
Newark	0.6	Dayton	1.6
Rochester, N. Y.	0.6	San Diego	1.6
Erie	0.7	Yonkers	1.6
Fall River*	0.7	Akron	1.7
Jacksonville	0.7	Elizabeth	1.7
Philadelphia	0.7	Providence	1.7
Salt Lake City*	0.7	Tacoma	1.7
Springfield, Mass.*	0.7	Buffalo	1.9
Canton	0.8	Cincinnati	1.9
Wilmington	0.8	Lynn	1.9
Detroit	0.9		
First Rank (from 2.0 to 4.9)			
Denver	2.0	Baltimore	2.6
Paterson	2.0	Louisville	2.6
Trenton	2.1	Fort Worth	2.8
Tulsa	2.1	Houston	2.8
Columbus	2.3	San Antonio	3.1
Pittsburgh†	2.3	Des Moines	3.2
Portland, Ore.	2.3	Kansas City, Mo.	3.2
Seattle	2.3	Albany	3.3
Washington	2.3	Lowell	4.4
Kansas City, Kan.	2.5	El Paso	4.9
Second Rank (from 5.0 to 9.9)			
Camden†	5.8	Birmingham†	7.0
Memphis	6.2	New Orleans	9.1
Oklahoma City	6.2	Dallas	9.4
Atlanta	6.5		
Third Rank (above 10.0)			
Nashville	12.8		

* We are informed that in Fall River, Grand Rapids, Salt Lake City, Springfield, Mass., and Utica, N. Y., the only typhoid deaths reported were in nonresidents.
† Cities in which a considerable proportion of the total typhoid deaths for 1929 occurred in nonresidents are as follows (see also preceding footnote): Pittsburgh, 12 nonresident, total for city, 16; Camden, 5 nonresident, total for city, 8; Birmingham, 9 nonresident, total for city, 16.

TABLE 10.—*Number of Cities with Various Typhoid Death Rates*

	No. of Cities	10.0 and Over	5.0 to 9.9	2.0 to 4.9	1.0 to 1.9	0.1 to 0.9	0.0
1906–1910	74	72	2	0	0	0	0
1911–1915	75	55	18	2	0	0	0
1916–1920	77	19	29	29	0	0	0
1921–1925	79	8	15	46	10	0	0
1926	80	6	10	27	19	14	4
1927	81	4	8	26	23	13	7
1928	81	4	6*	25	20	17*	9
1929	81	1	7	20	25	23	5

* Revised from figures given in our 1928 report on account of correction for Erie.

TABLE 11.—*Total Typhoid Rate for Seventy-Four Cities, 1910-1928* *

	Population	Typhoid Deaths	Typhoid Death Rate per 100,000
1910	22,286,000	4,586	20.58
1911	22,916,700	3,883	16.94
1912	23,535,450	3,077	13.07
1913	24,151,936	3,222	13.34
1914	24,776,777	2,744	11.07
1915	25,392,422	2,373	9.34
1916	25,928,745	2,154	8.31
1917	26,528,213	1,963	7.40
1918	26,737,190†	1,796†	6.72
1919	27,373,579†	1,141†	4.17
1920	28,182,528	1,074	3.81
1921	28,509,732	1,130	3.96
1922	28,947,007	955	3.30
1923	29,580,000	936	3.16
1924	30,155,014	937	3.11
1925	30,938,501	1,067	3.45
1926	31,667,424	895	2.83
1927	32,492,123	638	1.96
1928	33,116,784	621‡	1.89‡
1929	33,984,261	531	1.56§

* The following seven cities are omitted from this table because data for the full period are not available: Canton, Dallas, Jacksonville, Oklahoma City, Tulsa, Utica, Wilmington.
† Lacks data for Fort Worth.
‡ Revised from figure given in our 1928 report on account of correction for Erie.
§ The rate for the eighty-one cities in 1929 is 1.62.

TABLE 12.—*Total Typhoid Death Rate per Hundred Thousand Population for Eighty-One Cities According to Geographic Divisions*

		1929		1928				
	1929 Population	Typhoid Deaths	Typhoid Death Rate	Typhoid Deaths	Typhoid Death Rate	1927 Typhoid Death Rate	1926 Typhoid Death Rate	1925 Typhoid Death Rate
New England	2,575,282	34	1.32	23	0.90	1.26	1.51	2.37
Middle Atlantic	12,034,265	149	1.24	171*	1.45*	1.41	2.09	2.97
South Atlantic	2,321,300	58	2.50	85	3.72	3.39	5.38	5.71†
East North Central	8,715,100	75	0.86	94	1.10	1.31	1.69	2.19
East South Central	899,915	55	6.11	68	7.68	10.07	14.47	14.20
West North Central	2,636,300	41	1.55	43	1.65	1.86	2.22	3.31
West South Central	1,875,054	104	5.55	109	6.18	6.71	11.69‡	13.27‡
Mountain and Pacific	4,001,445	54	1.35	72	1.92	1.74	1.98	2.19

* Revised from figures given in our 1928 report on account of correction for Erie.
† Lacks data for Jacksonville.
‡ Lacks data for Oklahoma City.

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion. — Ed.

REPORT OF SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following report of the Secretary is respectfully submitted to the House of Delegates:

MEMBERSHIP

The enrolled membership of the Association on April 1, 1930, was 99,181, as compared with 98,307 on May, 1, 1929, reported at the last annual session. The number of members in each of the constituent associations is shown in an accompanying table. During the year 1929 the deaths of 1,378 members were reported.

FELLOWSHIP

On April 1, 1930, the number of enrolled Fellows was 65,419, as compared with 64,729 on April 1, 1929.

A MILITANT ORGANIZATION

In reports submitted to the House of Delegates at annual sessions in previous years, the need for compact and efficient organization of the medical profession has been especially emphasized. Developments of the year that has passed since the last meeting of this House have clearly shown that the need for unified action and authoritative expression through truly representative channels is more pressing than ever before. Gratifying progress has been made by several constituent state associations and by a fairly large number of component county medical societies in developing programs designed to carry out the fundamental purposes of medical organization. It is to be hoped that the example of these earnest and progressive societies will stimulate many others to awaken to the need for concerted action and to assume to the fullest extent the responsibility that rests on them in the promotion of scientific medicine and in combating those influences that would retard its progress and deprive the public of its benefits.

It has come to be the sport of pot-boiling writers to use the columns of such magazines as are open to them to slur medicine and its practitioners in articles in which truth is distorted and facts are ignored. The radio is being used by charlatans and faddists to further nefarious schemes or to propagate fanciful theories, as well as to belittle science and to slander physicians. Well meaning philanthropists promote projects of various kinds without knowledge of what is involved in the practice of medicine and without regard for biologic principles. Occasionally articles, seemingly sponsored by organizations composed of physicians, appear in the public press containing unwarranted statements that apparently are intended to exalt the few by reflecting unfavorably on the profession as a whole. Committees and commissions and conferences, self-created, are busying themselves with studies and appraisals confined to relatively narrow fields, with small regard for the largest factors in the great picture of general economics. Princes of industry are advocating the application of mass production methods and strictly commercial rules in the practice of medicine, even in the face of the fact that the revolutionary processes they have instigated and developed in business have glutted markets, mortgaged the buying power of the people and made necessary the adoption of artificialities in commerce that are directly opposed to established economic principles. Governmental policies, already adopted or under consideration, are designed—purposely or not—to retard the further development of scientific medicine and to interfere with its practice in the manner that will best serve the public interest.

Just why this siege has been laid against medicine with its resultant outpouring of proposals of redaction, restriction and degradation of a great humanitarian profession is hard to explain. It may be that in the honest attempt that has been made to educate the public in matters pertaining to medicine we have reached the stage in the program where a certain element of the public feels that it knows enough to make the

Organization of Constituent State Associations

	Number Counties in State	Number Component Societies in State	Number of Counties in State Not Organized*		Number of Physicians in State (11th Ed. Directory)	Number of Members of State Associations		Number A. M. A. Fellows in State
			1929	1930		1929	1930	
Alabama	67	67	..	..	2,257	1,729	1,663	570
Arizona	14	11	..	1	411	243	245	205
Arkansas	75	63	12	11	2,034	1,074	1,109	491
California	58	40	15	15	9,421	4,770	4,959	3,849
Colorado	63	26	30	28	1,802	1,148	1,131	795
Connecticut	8	8	..	..	2,011	1,351	1,360	938
Delaware	3	3	..	..	261	170	174	108
Dist. Columbia	..	..	..	..	1,956	601	608	522
Florida	66	34	19	21	1,770	1,334	1,093	548
Georgia	161	101	38	44	2,917	1,842	1,914	748
Idaho	44	11	1	2	393	183	164	123
Illinois	102	94	8	5	11,105	7,291	7,457	5,540
Indiana	92	82	4	3	4,102	2,792	2,781	1,697
Iowa	99	95	1	2	3,154	2,366	2,371	1,541
Kansas	105	61	38	38	2,214	1,660	1,662	938
Kentucky	120	110	7	8	2,904	1,904	1,877	791
Louisiana	64	42	20	20	2,047	1,301	1,324	763
Maine	16	15	1	1	1,013	793	794	386
Maryland	24	21	2	2	2,419	1,278	1,258	842
Massachusetts	14	18	2	2	6,375	4,518	4,534	2,995
Michigan	83	54	7	5	5,319	3,543	3,495	2,241
Minnesota	87	36	5	2	3,084	2,223	2,220	1,684
Mississippi	82	22	6	4	1,633	851	1,010	366
Missouri	115	91	16	15	5,650	3,312	3,354	2,101
Montana	56	15	26	28	501	338	334	235
Nebraska	93	53	23	23	1,800	1,009	1,201	806
Nevada	17	4	14	13	130	91	87	66
New Hampshire	10	10	..	..	575	510	496	260
New Jersey	21	21	..	..	4,045	2,643	2,642	1,855
New Mexico	31	12	18	17	367	226	219	141
New York	62	60	1	1	19,817	12,144	12,490	8,699
North Carolina	100	87	8	4	2,355	1,839	1,592	782
North Dakota	53	14	9	9	501	426	408	311
Ohio	88	87	..	..	8,432	5,522	5,426	3,303
Oklahoma	77	64	14	12	2,435	1,628	1,674	852
Oregon	36	14	4	5	1,265	602	687	614
Pennsylvania	67	63	4	4	11,795	7,975	8,002	5,377
Rhode Island	5	6	..	1	799	455	440	357
South Carolina	46	42	1	1	1,303	845	823	379
South Dakota	69	13	11	11	588	384	349	252
Tennessee	95	70	19	16	2,997	1,755	1,648	788
Texas	254	136	76	76	6,204	3,798	3,734	2,139
Utah	29	8	20	20	507	384	368	258
Vermont	14	10	3	3	497	351	339	203
Virginia	100	52	12	12	2,516	1,856	1,831	911
Washington	39	20	17	17	1,838	1,338	1,389	967
West Virginia	55	27	5	5	1,765	1,132	1,097	666
Wisconsin	71	51	1	1	2,987	1,992	2,200	1,558
Wyoming	24	7	14	15	232	141	154	104
Alaska	..	..	..	..	52	16	20	9
Canal Zone and Panama	..	..	..	..	158	114	123	26
Guam, Samoa, Virgin Islands	..	..	..	..	27	.....	.....	.....
Hawaii	5	4	1	1	270	150	170	18
Philippine Islands (Provinces)	56	9	48	47	1,464	313	411	57
Porto Rico (Districts)	7	7	..	..	356	262	270	63
Foreign	..	..	..	..	.....	.....	.....	150
Total	3,142	2,071	581	571	154,830	98,307	99,181	62,988
Commissioned Officers, Honorary and Affiliate Fellows								2,431
								65,419

* In some instances two or more counties combine to form a county society.

rules and to dictate the course of procedure. Certainly some of the proposals offered, by individuals and by groups, indicate that a little knowledge is, as it has always been, a dangerous thing. The situation is one that demands that efforts for the information of the public shall be continued and persisted in until the truth shall prevail. This means that compact and efficient organization that will command the undivided loyalty of all reputable physicians must be perfected and maintained, through which information based on scientific fact can be disseminated and misinformation from any source whatever can be combated.

Our state associations and county societies must continue and intensify efforts for the improvement of their own members to the end that every one of them may render the best service possible and that each in his everyday contacts can contribute helpful instruction to the public in whose interest medicine has ever sought to serve. Each of them, in its own jurisdiction, must strive to become all sufficient for the needs of their members in their relations to medicine, their relations to each other, and in their relations to the public, to Government and to philanthropy. This will mean organization in counties and states through which any untoward conditions that may exist in the profession itself will be corrected. It will mean organization that will provide stimulation for scientific advancement of the individual member and that will promote the dissemination of knowledge for the improvement of the profession as a whole. It will mean organization for safeguarding the material interests of its membership, which are in no manner different from the interests of the public. Our societies and associations in counties and states must offer leadership and helpful guidance in matters pertaining to public health, which is distinctly a field of medicine. They must, as organized bodies, carefully scrutinize and constructively criticize programs of Government or of philanthropy, cooperate actively in any plan that is good, and persistently oppose every plan that will retard the development of the art and science of medicine or prevent the extension of its benefits in a manner that will serve the best interests of all the people.

The American Medical Association, as a national body, is striving to serve as a militant organization and to utilize all of its resources to best advantage for the promotion of medical knowledge and for its application for the good of all mankind. Through its publications it brings to physicians the best that is produced in scientific medical literature, together with a mass of informative material, gathered from many parts of the world, concerning movements and conditions affecting medical practice, public health, and the relations of physicians in the life of the times. Through one of its monthly periodicals and through pamphlets and leaflets that are widely distributed the Association attempts to give practical and useful information to the public. These efforts are supplemented by the daily use of the radio, by correspondence involving replies to thousands of inquiries from laymen, and by service to the lay press. Through its councils and bureaus and committees, the fields of medical education and hospitals, pharmacy and chemistry, physical therapy, health and public instruction, legal medicine and legislation, and frauds and quackery in medicine are being covered as fully as facilities will permit, and there is a constant increase in the work and a constant improvement in the service of all these departments. Intimate contact is maintained wherever possible with other groups and organizations concerned in any manner with public health or medical practice. The Association does not hesitate to expose and to condemn any movement, however sponsored, that it believes to be opposed to the public interest or to the interest of its own members as physicians to the public, nor does it withhold its cooperation in any movement designed to promote human welfare.

The conditions of the times demand that a more militant spirit shall be developed in every unit of our organization to the end that each in its own sphere will become more efficient in its work for advancing the science of medicine, for improving the means and methods of its application, for bettering the public health, and for opposing anything and everything that would reduce a useful and honorable profession to the status of a trade or of a socialized group of hirelings without professional ideals, and therefore without initiative or ambition for further scientific advancement, and without the spirit of humane service.

RESOLUTION TO BE INTRODUCED

The following resolution has been placed in the hands of the Secretary by Dr. E. C. Thrash, a delegate of the Medical Association of Georgia:

WHEREAS, Sectional caucuses encourage and engender intersectional discord and intersectional prejudices, and

WHEREAS, The House of Delegates is made up of representatives from various sections to serve as a united body to legislate and function otherwise for the American Medical Association as a unit, therefore be it

RESOLVED, That the House of Delegates discountenance and disapprove sectional caucuses pertaining to matters that are to be acted upon by this body.

ANNUAL CONFERENCE OF STATE SECRETARIES

The regular Annual Conference of Secretaries of Constituent State Medical Associations was held in Chicago in November, 1929. For several years the editors of state medical journals have participated in the deliberations of these conferences. The attendance of other officers of the state associations is increasing year by year. The programs deal with subjects of practical importance pertaining to organization, and the economics of medicine and the papers and discussions printed in the AMERICAN MEDICAL ASSOCIATION BULLETIN are more widely read than ever before. The members of the House of Delegates would be most heartily welcomed to these yearly conferences.

CONFERENCES OF COUNTY MEDICAL SOCIETY SECRETARIES

The annual conferences of county secretaries of three state medical associations have been held in the building of the American Medical Association within the last two years. The county secretaries of Michigan and the Council of the Michigan State Medical Society have held two annual meetings in Chicago, and the county secretaries of Wisconsin and Indiana have held one meeting each at Association headquarters. The officers of the Association have felt highly honored by the visits of the county secretaries and officers of these three states and would be greatly pleased to have the facilities of the building in Chicago utilized in a similar manner by the workers in other states.

It is highly desirable that there should be a more widespread knowledge of the work of the various departments of the American Medical Association, especially among those who administer the affairs of its component societies, and it is extremely helpful to our own administrative personnel to have direct contacts with officers and members of those societies.

A WORD OF THANKS

For the kindly consideration, the unfailing courtesy and the ever ready help received by the Secretary from the members of the House of Delegates, the officers of the Association and members of its councils and committees, the officers of county and state societies and his associates in administrative personnel, most grateful acknowledgment is here offered.

Respectfully submitted.

OLIN WEST, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

Charles W. Richardson

Through the death of Charles W. Richardson, Aug. 25, 1929, the American Medical Association lost a devoted servant and the Board of Trustees an efficient and much loved member. Dr. Richardson, for many years an active and useful Fellow of the Association, in its House of Delegates and in the section of the Scientific Assembly with which he was identified, was elected a member of the Board of Trustees in 1920 and served continuously in that relation until the time of his death. He was scrupulously attentive to every duty and responsibility and was uncompromisingly steadfast in his devotion to the high

purposes of the Association. He was always ready to assume his full share of the work assigned to the Board of Trustees and gave earnest and intelligent consideration to every subject submitted.

In the more than nine years of his membership, Dr. Richardson missed only one meeting of the Board. He was considerate, tolerant and courteous in all his contacts and won the respect and affection of his associates by his kindly bearing toward them and by his intelligent contributions toward the disposition of the many important matters with which the Board of Trustees was called on to deal.

That Dr. Richardson was held in high esteem in his own community was attested by a memorial service held in Washington some weeks after his death, at which the Association was represented by the chairman of the Board of Trustees and others of the officers of the Association.

Election of Trustee

Dr. Thomas C. Cullen of Baltimore was elected a member of the Board of Trustees, at its regular meeting held in September, 1929, to fill the vacancy created by the death of Dr. Charles W. Richardson. In accordance with the provisions of the By-Laws of the Association, it will be necessary for the House of Delegates to elect a Trustee at this session to complete the term of Dr. Richardson, which will expire in 1931.

Committees Appointed

Complying with the terms of resolutions adopted by the House of Delegates at the Portland Session, the Board of Trustees appointed the following committees:

COMMITTEE ON MILITARY AFFAIRS AND NATIONAL DEFENSE

Holman Taylor, Chairman.....Fort Worth, Texas
Fred B. Lund.....Boston
E. W. Meyerding.....St. Paul
Frank K. Boland.....Atlanta, Ga.
S. E. Lambert.....Spokane, Wash.

COMMITTEE ON POISONOUS GASES

H. Gideon Wells, Chairman.....Chicago
Yandell Henderson.....New Haven, Conn.
Carey P. McCord.....Cincinnati
L. R. Thompson.....Washington, D. C.

COMMITTEE ON HISTORY OF THE AMERICAN MEDICAL ASSOCIATION

George H. Simmons.....Chicago
William Allen Pusey.....Chicago
E. J. Goodwin.....St. Louis
Holman Taylor.....Fort Worth, Texas
W. L. Burrage.....Brookline, Mass.
John E. Lane.....New Haven, Conn.

Income and Expenditures

The total income of the Association for the year 1929 was larger than in any previous year, but the advantage gained in this respect was more than offset by increased expenditures due to enlargements and improvements in the publications of the Association and in the extension of the work of the various councils, bureaus and departments.

As will be seen by referring to the Auditor's Report, which is appended as a part of this report of the Board of Trustees, the net gain for the year was $207,654.86, which is approximately $19,000 less than the net gain reported for the year 1928. In spite of the fact that certain operating economies were effected during the last year, the outlay occasioned by increased activities in practically every department was, exclusive of the department of publications, approximately, $26,000 greater than in the preceding year.

It has been obvious to the Board of Trustees for several years that the demands that are constantly being made on the Association for greater service, and the natural development of the activities of its various departments, would inevitably necessitate larger annual expenditures in caring for the legitimate needs of these departments. Expansion and improvement of service, together with a growing distribution of the Association's periodicals and the improvement of these publications in a manner that will always be necessary to maintain their value to the profession, will inevitably require better working equipment, a larger personnel and more adequate housing facilities. These are the facts on which the recommendation of the Board of Trustees that the subscription price of THE JOURNAL should be increased was based, since THE JOURNAL is the greatest source of income. The developments of the past year have gone far to justify the position of the Board of Trustees in offering this recommendation and the judgment of the House of Delegates in authorizing that the subscription price of THE JOURNAL be increased.

The Journal

The total number of copies of THE JOURNAL printed in 1929 was 5,158,867, with a gross weekly average of 99,209 copies. The net paid weekly average for the year was 96,220, which represents an increase of approximately 3,000 over the preceding year. The appended table shows approximately the mailing list, Dec. 31, 1929, and indicates the number of Fellows and subscribers receiving THE JOURNAL in each of the several states. This table also indicates the gain and loss in each during the year. Another appended table gives the number of physicians (based on the Eleventh Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage of physicians in each state to whom THE JOURNAL goes.

TABLE 1.—*Approximate Count of Fellows and Subscribers on The Journal Mailing List, Jan. 1, 1930; Also Gain or Loss During 1929*

State	Fellows	Subscribers	Totals	Gain for Year	Loss for Year
Alabama	568	284	852	9	..
Arizona	194	128	322	41	..
Arkansas	466	205	671	..	29
California	3,640	2,511	6,151	295	..
Colorado	733	350	1,083	..	1
Connecticut	910	532	1,442	50	..
Delaware	106	53	159	..	3
District of Columbia	506	467	973	32	..
Florida	559	324	883	..	30
Georgia	720	389	1,109	..	43
Idaho	121	105	226	..	3
Illinois	5,307	2,849	8,156	41	..
Indiana	1,586	768	2,354	39	..
Iowa	1,446	544	1,990	..	14
Kansas	915	359	1,274	13	..
Kentucky	752	407	1,159	15	..
Louisiana	727	366	1,093	98	..
Maine	387	141	528	2	..
Maryland	825	581	1,406	..	48
Massachusetts	2,909	1,561	4,470	125	..
Michigan	2,109	1,413	3,522	165	..
Minnesota	1,532	737	2,269	18	..
Mississippi	345	205	550	8	..
Missouri	2,031	1,008	3,039	38	..
Montana	214	129	343	12	..
Nebraska	760	465	1,225	46	..
Nevada	62	29	91	..	..
New Hampshire	262	71	333	..	4
New Jersey	1,823	1,211	3,034	131	..
New Mexico	140	81	221	2	..
New York	8,334	5,462	13,796	261	..
North Carolina	723	387	1,110	..	24
North Dakota	268	110	378	..	6
Ohio	3,306	1,729	5,035	102	..
Oklahoma	793	283	1,076	4	..
Oregon	553	300	853	80	..
Pennsylvania	5,258	2,556	7,814	78	..
Rhode Island	346	155	501	1	..
South Carolina	377	198	575	..	16
South Dakota	248	108	356	..	15
Tennessee	753	449	1,202	11	..
Texas	1,993	771	2,864	41	..
Utah	226	90	316	..	11
Vermont	204	102	306	..	2
Virginia	874	528	1,402	14	..
Washington	864	343	1,207	78	..
West Virginia	621	314	935	..	23
Wisconsin	1,447	657	2,104	14	..
Wyoming	103	55	158	1	..

THE JOURNAL has maintained its position in medical journalism. Because of the trend of medical interest, special attention was given during the year to the economic problems confronting the medical profession. The great demand for specialized consultation service through a publication of this character was revealed by increasing interest in the department of Queries and Minor Notes. The fact has been constantly kept in mind that THE JOURNAL is primarily a publication for all the medical profession and not particularly for those on either the higher or the lower levels of medical thought.

Special departments of THE JOURNAL have continued to promote the work of the Council on Pharmacy and Chemistry, the Council on Medical Education and Hospitals, and the Bureau of Investigation.

FIELD WORK OF THE EDITOR

During 1929, the editor of THE JOURNAL delivered forty-one addresses to lay audiences and to the members of important social, commercial and scientific organizations in various parts of the country, and twenty-one addresses at the meetings of state medical associations, district and county medical societies and other medical organizations. Among the lay audiences addressed were many composed of the members of the most influential social and business groups, many of which maintain national organizations.

TABLE 2.—*Physicians Receiving The Journal*

State	Number Receiving Journal	Physicians in State (11th A. M. A. Directory)	Approximate Percentage Receiving Journal
Alabama	852	2,257	38
Arizona	322	411	78
Arkansas	671	2,034	33
California	6,151	9,421	65
Colorado	1,083	1,802	60
Connecticut	1,442	2,011	72
Delaware	159	261	61
District of Columbia	973	1,956	50
Florida	883	1,770	50
Georgia	1,109	2,917	38
Idaho	226	393	57
Illinois	8,156	11,105	73
Indiana	2,354	4,102	57
Iowa	1,990	3,157	63
Kansas	1,274	2,214	57
Kentucky	1,159	2,904	40
Louisiana	1,093	2,047	53
Maine	528	1,013	52
Maryland	1,406	2,419	58
Massachusetts	4,470	6,375	70
Michigan	3,522	5,319	66
Minnesota	2,269	3,084	74
Mississippi	550	1,633	34
Missouri	3,039	5,650	54
Montana	343	501	68
Nebraska	1,225	1,800	68
Nevada	91	130	70
New Hampshire	333	575	58
New Jersey	3,034	4,045	75
New Mexico	221	367	60
New York	13,796	19,817	70
North Carolina	1,110	2,355	47
North Dakota	378	501	75
Ohio	5,035	8,432	59
Oklahoma	1,076	2,435	44
Oregon	853	1,265	67
Pennsylvania	7,814	11,795	66
Rhode Island	501	799	63
South Carolina	575	1,303	44
South Dakota	356	588	60
Tennessee	1,202	2,997	40
Texas	2,864	6,204	46
Utah	316	507	62
Vermont	306	497	61
Virginia	1,402	2,516	55
Washington	1,207	1,838	65
West Virginia	935	1,765	53
Wisconsin	2,104	2,987	70
Wyoming	158	232	68

Special Journals

These publications represent a service to the advancement of modern medicine that could be accomplished by no other agency than the American Medical Association. They reflect the very forefront of progress. They have, furthermore, aided the development of special work in many fields through the publication of supplements and series of articles which have been a stimulus to increasing research in the unsolved problems of the specialties they concern. Today these publications reflect practically all of the significant progress of modern medicine. It is reasonable to believe that, as the facilities of the Association for conducting such work are increased, it will be necessary to add to this list of special publications.

The Trustees of the Association have always felt that the publication of the special periodicals must be a contribution to scientific medicine and that they need not necessarily be published at a profit to the Association. The net loss on these publications indicates that the subscribers have received far more, even from a financial point of view, than was represented by their subscriptions. As medicine becomes increasingly specialized, more and more physicians must feel the need of subscribing to literature in several of the specialties, particularly in internal medicine, diseases of children and pathology.

With a single exception, each of the special journals has recorded a gain in circulation although, in some instances, it has been small. The only one of this group of publications which showed a loss in distribution was the AMERICAN JOURNAL OF DISEASES OF CHILDREN, the circulation of which, Dec. 31, 1929, was less by 193 than on the corresponding date in the preceding year. This is to be accounted for by the fact that it was necessary to make a material increase in the subscription price of this journal, which became effective, Jan. 1, 1930, and which undoubtedly resulted in the termination of most of the subscriptions involved in the decrease shown. The circulation of THE AMERICAN JOURNAL OF DISEASES OF CHILDREN, January 1, however, was in excess of 4,600.

The total number of names on the mailing lists of the various special journals, Dec. 31, 1929, was 23,125.

The net loss sustained through the publication of this group of journals in 1929 was $26,087.53. This is a decrease of more than $8,000 in the loss incurred in the preceding year. Only two of the special journals produced an income larger than expenditures, these being the ARCHIVES OF OTOLARYNGOLOGY and the ARCHIVES OF OPHTHALMOLOGY.

The editorial boards of the special journals, serving as they do without any financial compensation, have given most devoted service and have maintained the same high standards of scientific quality that have heretofore characterized the periodicals of the Association.

The Quarterly Cumulative Index Medicus

The QUARTERLY CUMULATIVE INDEX MEDICUS is one of the most important ventures sustained by the American Medical Association as an aid to the progress of scientific medicine throughout the world. The routine of conduct of the INDEX had been fairly well established when it became necessary for Col. Fielding H. Garrison of the Army Medical Library to give up his part of the work, the task being taken over by Col. Percy M. Ashburn. At present twenty employees in the library of the American Medical Association and four employees, whole or part time, in Washington, D. C., are concerned with the editing of this work. The difficulties inherent in the preparation of material at two widely separated points and the necessity for careful checking and rechecking in the editing of all indexes make it likely that eventually it will be necessary for the American Medical Association to assume the entire task of preparation of this publication. Involved in such centralization of the work would be the matter of subscribing to some thousand periodicals not now regularly received in the library of the Association and the employment of the personnel necessary to translate and index material from the publications mentioned. The obvious advantages will be that the library of the Association will then have available practically all of the medical periodicals of the world for use by the publications issued by the Association, that these periodicals will permit a survey of all available literature for use in the preparation of the INDEX, that the periodicals will be available for lending to members and subscribers, and that the work will be conducted with greater facility.

In the meantime, added experience in this work has tended to improvements in indexing and cross-indexing. The increasing bulk of material tends to delay the speed with which the INDEX can be issued after the closing dates selected each quarter.

During the year a number of additional periodicals has been added to the great number with which the INDEX was originally undertaken. At a meeting of the Medical Library Association, editors of the INDEX discussed with librarians from various institutions the problems associated with the production and use of this publication. Librarians throughout the world have commended the extreme utility of this production. The suggestion has been made that the new editions of books be included in the list of new books, and it has been agreed to undertake this improvement in 1930. Much discussion has been had relative to the possibility of including every medical publication in the world in the material now surveyed for the INDEX, but it has been considered inadvisable to extend the scope of the work in this way, at least for the present. Probably there will never come a time when it will be desirable to include all the publications issued by various commercial interests

in the field of medicine, the news sheets and publications issued for political purposes.

The number of subscribers to the QUARTERLY CUMULATIVE INDEX MEDICUS has diminished slightly since last year. This publication was increased 50 per cent in subscription price and a number of individual subscribers discontinued their support. It is inconceivable that any group of physicians attempting to produce during the course of a year any papers in the field of medicine would not find a subscription to the INDEX a definite saving in time and in effort.

The Carnegie Institution has continued its contribution toward the INDEX, for which grateful acknowledgment is offered by the Board of Trustees. This contribution covers but a small percentage of the total cost of production, which is far larger than the sum received for the INDEX from all sources. The work is of such importance to medical progress that some philanthropic agency might well be concerned with securing for it adequate endowment to insure its permanence.

Hygeia

HYGEIA has assumed a leading position as the health magazine of America. It is available in all important libraries and schools. Its circulation during its first year included some 70 per cent of physicians as compared with 30 per cent of laymen, and this in a total circulation of less than 15,000. Today its total circulation is well over 75,000, which includes approximately 70 per cent of laymen and 30 per cent of physicians. The number of medical subscribers has risen but slowly compared with the number of subscribers among the general public. Actually, HYGEIA should have a circulation among physicians of not less than 75,000. Certainly no other periodical on the reception room table can reflect to the public the scientific aspects of modern medicine and the ideals which characterize the work of our profession.

From contemporary periodicals in every field comes recognition of the high position that HYGEIA holds in the esteem of editors of newspapers, magazines and educational works. The physicians of the country should lend to this periodical their wholehearted support.

The circulation of HYGEIA in 1929 was more than 10,000 in excess of the circulation in the preceding year. The gain was recorded principally among educators and other professional groups outside the medical profession, although nearly 2,000 names of physicians were added to the subscription lists. Approximately 19,000 physicians are now subscribers to HYGEIA, while the circulation of the magazine among laymen has increased until it is now in excess of 51,000. The news stand sales of the magazine have not increased as rapidly as desired, though approximately 12,000 more copies were disposed of through this channel in 1929 than in 1928.

The total gross income derived through the publication of HYGEIA in 1929 was $309,529.26. Expenses of publication were $298,936.56, leaving an apparent net gain for the year of $10,592.70.

Advertising Department

The volume of advertising secured through the efforts of the department established for the purpose during the year 1929 was entirely satisfactory, and the income derived from this source showed a considerable increase over that of the preceding year. It seems to be apparent that the publications of the Association offer a medium to the advertisers of worthwhile products that is attractive and satisfactory to their producers. The usual large amount of offered advertising matter was rejected, in keeping with the expressed determination of the Board of Trustees to maintain the same high standards that have characterized the advertising columns of the Association's periodicals in past years.

American Medical Directory

The Eleventh Edition of the American Medical Directory was issued in July, 1929. Certain changes effected in this edition appear to have been favorably received. It is believed that these contributed to the improvement of the Directory.

Sales of the Eleventh Edition are still in progress. It seems probable that the income received from this edition will be large enough to meet practically all the expenditures involved in its publication.

Cooperative Medical Advertising Bureau

The Cooperative Medical Advertising Bureau now serves thirty official publications of constituent state medical associations. The *Delaware State Medical Journal* was added to this group in 1929. The official organs of the Medical Society of the State of New York and of the Illinois State Medical Society are not members of the Cooperative Medical Advertising Bureau.

The earnings of the bureau for 1929 were $27,584.99, of which $11,500 was rebated in proportionate amounts to the journals holding membership. This was, of course, in addition to the amounts received by the journals in payment for advertising space. Since the establishment of this bureau more than $75,000 has been distributed to cooperating journals from its earnings.

Order Department and Mailing Section

The Order Department, through which is handled individual orders for publications of the Association other than its regular periodicals, and other material provided for members, took care of approximately 66,000 orders during the year 1929, the total number of units being 273,287.

Indicative of the constantly increasing demands made on the offices of the Association, it is interesting to note that, exclusive of first class mail, 213 tons of mailing matter went out from this department in 1929 as compared with 146 tons in 1928.

The Library

For the third time in as many years the library has outgrown the quarters provided for it, and it has become necessary to place a great deal of its working material in halls and rooms that are not conveniently located. Demands for library service are constantly increasing. In 1929 nearly two thousand library packages were supplied, approximately five thousand periodicals were loaned and three thousand reference questions were answered. The distribution of library packages has increased nearly 200 per cent within two years. It has been necessary to make three additions to the library personnel within the last year.

About 700 periodicals are regularly received, and working relations are maintained with other important libraries which make it possible to meet most of the demands.

Employees of the Association borrowed more than 5,000 books from the employees' library during 1929, and 134 new cards were issued to employees who have not hitherto availed themselves of this service. The employees' library is maintained by fees paid by cardholders.

The Council on Pharmacy and Chemistry

In February, 1930, the Council on Pharmacy and Chemistry entered upon the twenty-fifth year of its existence. Each passing year sees fresh evidence of the Council's successful performance and of its increasing usefulness to the medical profession. One of the objects announced at the founding of the Council was the publication of an unofficial pharmacopeia for new drugs to provide tests and standards for such preparations as might have promise of therapeutic usefulness, pending the time when they should be eligible for the Pharmacopeia.

This eminently constructive aim of the Council has been strikingly fulfilled. At the last revision of the U. S. Pharmacopeia, forty new drugs and preparations were added. Of these, thirty-one had been admitted to the Council's book, New and Nonofficial Remedies, and many of the tests and standards worked out for them in the Chemical Laboratory of the American Medical Association and adopted by the Council were simply transferred to the official book. Among the more important are: acetylsalicylic acid, benzocaine, ethyl chaulmoograte, amidopyrine, the silver proteinates, arsphenamine, neo-arsphenamine, barbital and its sodium compound, barium sulphate, carbon tetrachloride, dichloramine, epinephrine, phenobarbital, procaine hydrochloride, quinidine sulphate, quinine ethyl carbonate, sodium biphosphate, and surgical solution of chlorinated soda. With the adoption of these into the U. S. Pharmacopeia they were omitted from New and Nonofficial Remedies in accordance with the Council's rules.

In accordance with its declared constructive attitude, the Council issued a report urging physicians and pharmacists alike

to send to the Pharmacopeial convention sane and broadminded delegates, prepared to make the revision of the Pharmacopeia reflect, in the words of the preface to the first edition, "the best state of the medical knowledge of the day."

Another object declared at the inception of the Council was the control of the claims made for proprietary medicines in advertising. With the establishment of the Council, advertising in THE JOURNAL was limited to preparations reported on favorably, and to the claims permitted by the Council. This rational supervision of advertising was extended to other publications of the Association, and soon the official organs of the constituent medical societies—the "state" journals—saw their way clear to support the work of the Council. At the present time all state medical journals, with two exceptions—the *Illinois Medical Journal* and the *New York State Journal of Medicine*—limit their advertising of proprietary medicines to those passed by the Council. A considerable number of medical publications not controlled by state medical societies likewise give their support to the Council's work. Altogether, nearly one half of the medical publications in the United States have agreed to limit advertisements for proprietary medicaments to those accepted for New and Nonofficial Remedies. This salutary influence on advertising and the consequent increasing support by individual physicians of the Council's work and ideals account for the improvement in the attitude of the manufacturers of pharmaceuticals. No worth while product is now put on the market unless the Council has considered it and reported on it. The success of the Council's work has led to the establishment abroad of similar organizations for the promotion of rational drug therapy. The establishment by the American Dental Association of a council on dental therapeutics is a direct outgrowth of the work of the Council.

In pursuance of its policy of fostering rational nomenclature and avoidance of the marketing of identical preparations under different names, the Council adopted the designation Viosterol for the newly introduced irradiated ergosterol, and the name Viosterol in Oil 100 D for a solution of viosterol in vegetable oil. Four leading firms have already given their support to the Council's endeavor toward rational drug nomenclature by adopting the Council's names for these products. Because of this support by manufacturers and because of the use of the new terminology by the editorial department of THE JOURNAL and the staff of the QUARTERLY CUMULATIVE INDEX MEDICUS, the names bid fair to become established in commercial usage and in medical literature.

THE COUNCIL'S WORK

Descriptions of acceptable products are published in THE JOURNAL, and are later put into the annual issue of New and Nonofficial Remedies. Reports on unacceptable articles are also published in THE JOURNAL, except in certain instances, and later all are included in the annual reprint of the REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY. Another feature of the Council's routine work is the reconsideration each year of the products already standing accepted and their omission from the book if it is found that their original promise of therapeutic value has not been fulfilled or if the manufacturer is making unwarranted claims. Reports on articles thus omitted are published in THE JOURNAL and later in the collected reprint of the Council reports. Thus full publicity is given the Council's action on all articles, whether accepted, rejected or omitted.

NEW AND NONOFFICIAL REMEDIES

Articles are admitted to New and Nonofficial Remedies when, after consideration, they are found to conform to the rules by which the Council is bound. These rules require that the preparation be of known and declared composition and marketed in a manner guaranteeing its uniformity; that its name may not be misleading or therapeutically suggestive but, except in certain instances, indicative of its composition; that the therapeutic claims be in harmony with the evidence available to the Council; that it be marketed in such a way as not to lead to its ill advised use by the laity; that it give promise of therapeutic usefulness; that it be not an unessential modification of a known and established drug, and that it be not scientifically unsound and therefore not useless or inimical to the best interests of the medical profession and of the public. A product is usually accepted for a period of three years, at the end of which time it is carefully reconsidered and its admission continued if it meets the conditions of the Council's rules.

Within the limits of the rules just epitomized, the Council admits products rather liberally for which there appears to be really good evidence of therapeutic worth. But contemporary enthusiasm is often misleading, and experience dictates caution. For example, when vaccine therapy was new and in the ascendency, manufacturers offered specific vaccines for almost every human ailment and "mixed vaccines" of startling complexity. The Council not only rejected most vaccine mixtures but has during recent years been obliged to omit a considerable number of simple vaccines because the results obtained with them did not measure up to the evidence which investigators supplied in the height of enthusiasm. Some of those omitted in recent years are gonoccocus, streptococcus, meningococcus, Friedländer bacillus, and diphtheria bacillus vaccines. At the close of the past year pneumococcus vaccine was omitted, and the Council is seriously considering the omission of others. Similarly the Council has rescinded the acceptance of many animal organ preparations which in the light of extended trial did not come up to expectation, and, although certain firms still issue extravagant propaganda for a large number of gland preparations, befuddling the profession with their mixed endocrine products, New and Nonofficial Remedies includes preparations of the following only: ovary, pancreas, parathyroid and pituitary. Also, while some twenty years ago digestive enzymes were extensively prescribed, the Council has come to the conclusion that the administration of these ferments is of little value and has in the past year omitted all digestive enzymes for oral administration. However, while many of the additions to our materia medica have not lived up to expectations and have been omitted, others have been evolved and are, it is hoped, on safer ground because of the more thorough investigation which is now insisted on before they are offered to the medical profession. The new products admitted during the year include: Bismarsen, which is sulpharsphenamine bismuth; Dial-Ciba, which is diallylbarbituric acid; Calcium-Gluconate-Sandoz, a more palatable and less irritant preparation of calcium; Atoquinol-Ciba, which is a cinchophen derivative; Digifoline-Ciba, which contains the active glucosides of digitalis; Pitocin and Pitressin, which are solutions of the oxytocic and pressor principles, respectively, of the posterior lobe of the pituitary gland; Viosterol (the Council name for irradiated ergosterol) in the form of Viosterol in Oil 100 D, which is irradiated ergosterol dissolved in vegetable oil and adjusted to have 100 times the antirachitic potency of a standard cod liver oil, and in the form of Cod Liver Oil with Viosterol 5 D, which is cod liver oil with its vitamin D potency enhanced by addition of irradiated ergosterol.

ANNUAL REPRINT OF REPORTS OF THE COUNCIL

The publicity given to the reports of the Council on the rejection of medicinal preparations has undoubtedly contributed greatly to the effectiveness of its work. From the beginning it has been the custom to reprint in a collected volume these reports first published in THE JOURNAL with a few not considered important enough for original publication. Since 1908 these collected reports have appeared annually. Among the reports on rejection in the present volume are those on Atomidine, a semisecret iodine preparation; Sodiphene, an unoriginal alkaline phenol preparation marketed under a proprietary name with unwarranted therapeutic claims; Borocaine, procaine borate under a proprietary name; Quicamphol (Transpulmin), a quinine preparation for intramuscular injection in the treatment of lobar pneumonia; Toxogon, a preparation of inadequately declared composition marketed under a therapeutically suggestive name; Antiustio, an unscientific mixture marketed under a nondescriptive name with unwarranted therapeutic claims; Intramuscular Iron Arsenic Comp. (No. 201), and (Intravenous) Iron, Cacod, and Glycerophosphate (No. 202), two irrational and unscientific mixtures exploited with the emphasis on the number.

In the case of products which show sufficient promise but which are not backed by sufficient clinical evidence to justify recognition, the Council issues preliminary reports with a view

to defining the status of the product and supplying, when desirable, statements to establish the chemical uniformity and identity of the product to facilitate its clinical trial. Such reports were made by the Council last year on Colloidal Mercury Sulphide-Hille; Heparmone, an acid alcohol liver extract for use in eclamptic conditions; Coramine-Ciba, which is pyridine-carbonic acid; and Amniotin-Squibb, an ovarian hormone preparation from the fetal fluid of cattle. Two special reports of interest which appear in the collected Reprints are the Report of the Harvard Committee on Pernicious Anemia and the article of Mackenzie and Hanger on Serum Diseases and Serum Accidents. These were considered and authorized for publication by the Council. Both are valuable contributions to the knowledge of the subjects involved.

Believing it important that the young medical graduate should become familiar with the problems concerned in the exploitation of proprietary medicines and that he be taught to distinguish between products representing real advance in new therapeutic agents and the unscientific proprietaries that will be brought to his attention when he enters the practice of medicine, the Trustees provided funds last year for the distribution of copies of New and Nonofficial Remedies to students in the medical schools. In this undertaking the Council has had the effective support of medical schools which undertook to acquaint their students with the aims and objects of the Council. This year funds were again provided, and one class in each medical school was supplied with copies of the book.

Since hospitals are the training school for the medical graduate, it is important that here the selection of drugs be carefully guarded. In appreciation of this, the use of drugs in hospitals had a prominent part in the program of the recent annual meeting of the Council on Medical Education and Hospitals, and three members of the Council presented papers dealing with this subject.

MEMBERS AND CONSULTANTS OF THE COUNCIL

At the first meeting of the Council, Feb. 11, 1905, the following were present: Robert A. Hatcher, M. I. Wilbert, Lyman Kebler, Torald Sollmann, Arthur F. Cushny, C. Lewis Diehl, W. A. Puckner, C. S. N. Hallberg, and George H. Simmons. Of these, Drs. Hatcher, Sollmann and Simmons and Professor Puckner are still members of the Council, and Dr. Simmons, its founder and for twenty-two years its chairman and ardent leader, is still participating actively in the work of the Council, though he has retired from active work as editor of THE JOURNAL. Those who have taken the places of retired and deceased members are continuing the work with zeal and enthusiasm. It is remarkable and deserving of the greatest appreciation on the part of the medical profession that the Council members give so much thought and time to the work. This work must be arranged by Council members to fit into the demands of busy professional careers, and since they serve without pay the very considerable amount of business that the Council accomplishes each year is a monument to their unselfish devotion.

When occasion arises, the Council seeks and obtains the assistance of men whose work has given them rank as authorities in special fields. During the past year valuable assistance has been received from Drs. Hermon C. Bumpus, Arthur D. Black, Robert A. Cooke, H. N. Cole, Leslie N. Gay, Preston M. Hickey, Robert H. Herbst, Percy R. Howe, Franklin M. Hanger, Herman L. Kretschmer, B. R. Kirklin, H. D. Lightbody, Paul B. Magnuson, G. M. MacKenzie, Gilbert J. Thomas, Paul Titus, J. C. Torrey, Albert Vander Veer, Russell M. Wilder and I. Chandler Walker.

THE COMMITTEE ON FOODS

In view of the widespread popular interest in the use of properly selected foods for the promotion of health and the consequent exploitation by commercial interests of food products with a health appeal, it became apparent that there is a need for some body to express judgment of food products and food advertising in the same way that the Council considers medical preparations. Acting on authorization from the Trustees, the Council has therefore in the past year created a special Committee on Foods. The preliminary form of the rules under which this committee functions was published in THE JOURNAL, Oct. 12, 1929, p. 1144. Following the plan of the Council, the committee examines nonmedicinal products for which health claims are made and publishes in THE JOURNAL and in an annual publication, Accepted Foods, descriptions of the products found to meet the committee's requirements and also reports concerning those found unacceptable.

THERAPEUTIC RESEARCH COMMITTEE

Supported by an annual appropriation from the Board of Trustees, the Therapeutic Research Committee has for its object the attraction of workers to a relatively large number of investigations in therapeutic problems by giving aid and encouragement to such work wherever it seems needed. The aim has been to make relatively small grants for the purchase of materials, animals, and the like, to as large a number of workers as possible; but in every case the grant has been large enough to be of real assistance as supplemental to other resources of the investigators.

During the year 1929 the committee has distributed $3,000 among eleven such grants, a list of which will be found in the Appendix.

Council on Physical Therapy

During the last year the activities of the Council on Physical Therapy have increased considerably over those of the previous year. These activities have been chiefly the dissemination of information concerning the merits and limitations of physical methods and energies as therapeutic agents. In view of the fact that the development of physical therapy has been largely empiric, the major part of the work of the Council must be for some time to come of an educative nature. That progress is slowly but surely being made in divesting physical therapy of the exaggerated and uncritical claims with which its progress has been hampered is evidenced by the increasingly conservative and scientific attitude on the part of the better manufacturers of equipment and on the part of the authors of the papers on physical therapy which are published in the better journals. The fact that critical, scientific investigators in the large universities and medical schools have seriously undertaken experimental work to determine the biologic effects of heat, light, electricity, massage and exercise, and their limits of therapeutic application, augurs well for the eventual standardization of the treatment of disease by physical means.

EDUCATIONAL ACTIVITIES

By means of special articles, addresses before scientific societies and other gatherings, and radio broadcasts, the medical profession and the public are being informed of the possibilities and impossibilities of physical energies and methods as curative or preventive agents. The talks before lay organizations and the radio broadcasts have been prepared especially for the purpose of forcefully pointing out that radiant and other forms of physical energy have definite physiologic effects and that therefore the therapeutic employment of such energies should always be under the strict supervision of a properly trained and regularly licensed physician.

Exhibits consisting of posters, charts and maps have been successfully employed by the Council in stimulating interest in sound physical therapy. The exhibit of the Council at the last annual session of the Association was composed of posters devoted to the definitions of massage, therapeutic exercise, occupational therapy, hydrotherapy, heat, radiation therapy and electrotherapy, and to a discussion of their essential biologic effects and therapeutic applications. From the many requests for typed copies of the posters it seems that this concise method of imparting information is effective. The Council therefore plans to extend its work along this line at future annual sessions of the Association and also at various other meetings to which it sends exhibits.

The correspondence of the department has greatly increased in volume. Physicians, investigators and the public communicate with the Council for authoritative statements regarding the therapeutic effectiveness of physical devices and methods. From a carefully kept index and an abstract and reprint file of the recent scientific literature pertaining to physical therapy and related subjects, the Council is able to provide the most recent opinions of scientific investigators.

In all its educational activities the Council endeavors to point out the importance of physical therapy in medicine as an adjuvant rather than as a sole method of treatment. It is the Council's opinion that too much emphasis has been placed on apparatus therapy and not enough on the possibilities of such measures as heat, massage, therapeutic exercise and occupational therapy.

EXPOSURE OF FRAUDULENT DEVICES

A large portion of the newer cure-alls sold to the public are of a physical nature. Radio waves, magnetism and radioactive materials are the alleged omnipotent agents employed in many of these panaceas, according to the claims of the exploiters.

The Council aids the Bureau of Investigation in exposing worthless devices of this type by conducting experiments to determine the construction and physical characteristics of such contrivances and their actual biologic effects. The Council also cooperates closely with governmental agencies and other investigative bodies in combating the sale of harmful and useless apparatus for self-treatment purposes.

The publishers of a number of the better periodicals have conferred with this department regarding the claims that might legitimately be made in the advertisements of devices sold to the public. In practically all cases the recommendations of the Council have been adopted by the advertising departments of these journals and the suggested changes made in the advertising copy under consideration. Such cooperation will do much to protect the public against useless and harmful devices and against unwarranted claims for otherwise useful and effective apparatus.

CONSIDERATION OF APPARATUS

One of the chief functions of the Council is to consider and to report on physical methods and apparatus used in the diagnosis and treatment of disease. A number of reports on apparatus have been published. Further reports are in preparation. In these reports the Council endeavors to give, for the information of the profession, complete description of the construction of devices and their physical characteristics. In a report on a generator of radiant energy, for example, the Council makes available to the profession information pertaining to the construction, the electrical characteristics and the emission characteristics of the generator.

If physical therapy apparatus carefully standardized in this manner is used, the accurate comparison of results obtained in the clinical use of these devices will be possible. Standardization of equipment in this way will obviously promote sound development of physical therapy.

STANDING COMMITTEES

A number of standing committees have been appointed by the Council, to which are referred, for thorough study and report, the various problems presented. These committees are on the following subjects: Education, X-Rays and Radium, Advertising, Scientific Research, Nomenclature and Definition, and Standardization.

The Committee on Education has prepared and published a report.

Much may be accomplished by county and state medical societies in instructing the practicing physician. Seminars, sponsored by medical societies and conducted by competent physicians who will impart sane and conservative information, constitute an effective method of instructing the great body of practicing physicians, who cannot leave their practice for the more or less extensive courses offered by universities.

The Committee on Education is preparing a bibliography on physical therapy and related subjects, to provide a list of books written for the public as well as a list of those written for physicians. This list will be widely distributed among schools, societies and libraries.

Many requests have been received from hospitals and physicians for information as to the organization and equipment of hospital departments of physical therapy. The Committee on Education has undertaken a survey of representative hospitals with a view to publishing a report.

The Committee on X-Rays and Radium has approved certain protective measures against x-rays and radium, and has approved the general adoption of the international unit of intensity adopted at the second International Congress of Radiology. In this way the Council has promoted standardization of x-ray measurement and adequate protection against the deleterious effects of x-rays and radium on physicians and technicians.

This committee has prepared for the information of the general practitioner special articles on x-rays as a diagnostic agent and on x-rays and radium as therapeutic agents in deep-lying and superficial conditions. An article on the physics, the biologic effects and the therapeutic applications of the grenz rays is in preparation.

The claims made for physical devices in advertisements appearing in publications of the Association and in those appearing in other publications must conform to scientific fact if the devices advertised are to be acceptable to the Council. It is the function of the Committee on Advertising to consider advertising matter and to recommend policies to be pursued by the Association in the advertisement of physical devices that have a medical application. Within its scope comes the consideration of the advertising not only of strictly therapeutic and diagnostic apparatus but also of all physical devices. The recommendations of this committee have been of great assistance to the Council and to THE JOURNAL.

The Committee on Scientific Research was appointed to further scientific investigation of fundamental problems in physical therapy. This committee has at its disposal an appropriation from which to make monetary grants to those working on problems of fundamental interest. During the last year a grant was made to Dr. J. D. Ellis for animals to be used in an experimental study of the healing of wounds caused by the various types of high frequency currents employed in electrosurgery. This work is being done at Northwestern University Medical School in the physiology department under the supervision of Dr. Ivy.

Further grants will be made from time to time to research workers who, in the opinion of the committee, are engaged in investigations that will assist in the standardization of physical therapy.

The definitions of terms used in physical therapy that were prepared by the Committee on Nomenclature and Definition have been incorporated in the newer textbooks on physical therapy and in the recent medical dictionaries. Libraries, scientific societies and journals are adopting the nomenclature recommended by the Council.

The Committee on Standardization has undertaken a critical survey of the scientific literature on physical therapy and biophysics. The information brought out in this survey will enable the Council to make more definite recommendations as to the characteristics which an apparatus should have in order to be most effective therapeutically.

THE SALE OF ULTRAVIOLET LAMPS TO THE PUBLIC

The Council on Physical Therapy has taken the stand that an ultraviolet lamp sold directly to the public should be so constructed that the radiant energy emitted shall not differ essentially from sunlight. Furthermore, the advertising and descriptive matter pertaining to such lamp should contain no curative claims nor mention of specific diseases.

In general, the Council believes that more conservative claims for the necessity of strong sunlight should be made by the manufacturers of ultraviolet generators for home use, such statements being restricted to those which can be justified by conclusive scientific evidence. The Council is not convinced that human beings in normal health require the great amount of ultraviolet energy one is led to believe from the advertising and descriptive matter pertaining to some of the so-called sunlamps sold to the public.

A number of the more responsible manufacturers have fully agreed with the opinion of the Council. The emission characteristics of their lamps are in essential agreement with the requirements established by the Council, and in their advertisements they carefully avoid making curative claims for ultraviolet generators. Furthermore, in these advertisements attention is called to the advisability of consulting one's physician before exposing oneself to ultraviolet radiation. The Council in this way is endeavoring to guide the sale and use of sunlamps along rational channels.

Bureau of Legal Medicine and Legislation

THE SHEPPARD-TOWNER MATERNITY AND INFANCY ACT

The Sheppard-Towner Maternity and Infancy Act expired by limitation, June 30, 1929. Before that time, however, several bills had been introduced in Congress to continue in force the act or the principles of the act.[1] Two other bills of similar purport had been introduced, one of which proposed to provide federal subsidies ranging up to two million dollars a year, to enable the federal government to superyise and direct state activities in promoting rural health,[2] according to the Sheppard-Towner subsidy system. These bills were pending in committees when the year closed.

The President in his annual message to Congress said that "the organization of preventive measures and health education in its personal application is the province of public health service" and that "all administrative activities of the same major purpose should be placed in groups under single-headed responsibility." He recommended, however, that "the purpose of the Sheppard-Towner Act should be continued through the Children's Bureau" and "that Congress should consider the desirability of confirming the use of federal funds by the states to the building up of such county or other local units, and that such outlay should be positively coordinated with the funds expended through the United States Public Health Service directed to other phases of the same county, or other local unit organization." There was no suggestion that the Children's Bureau be transferred to the United States Public Health Service, nor any suggestion as to why, in the proposed plan for the coordination of federal and state funds for health purposes, they should not all be coordinated through the United States Public Health Service, a technically trained administrative health agency, instead of being divided between that agency and an organization solely investigatory in its primary purpose, the Children's Bureau.

There are growing signs of uneasiness over the increasing and continued taking over by the federal government of supervision and control of rights and duties that for a century and more have been universally deemed to be rights and duties invested in the states under the Constitution. And the fact that states are able to carry on work for the protection of the health and lives of mothers and infants and will do so without federal aid is shown by the chief of the Children's Bureau in her report for the fiscal year ended June 30, 1929.

From that report it appears that, in anticipation of the discontinuance of federal aid, fifteen states[3] and the Territory of Hawaii appropriated each an amount equaling its combined federal and state funds of the preceding year. The only inference that can be drawn from this is that the states and territory named have at all times been able to appropriate for such work to the extent named, but that so long as the federal government was willing to pay one half of the cost of such work, the states and territory named appropriated only one half as much as was needed.

When this report was prepared, several bills more or less similar to the Sheppard-Towner Act were pending toward which an observant attitude was being maintained.

NARCOTICS

Federal Narcotic Legislation.—In April, 1929, it was reported that Representative Stephen G. Porter of Pennsylvania was preparing a bill amending the narcotic drugs import and export act. During the year repeated conferences were held with those concerned with this legislation, which was discussed by the Board of Trustees at each of its meetings, and the Association was represented at hearings before a congressional committee.

Two bills, H. R. 9053 and H. R. 9054, were originally introduced by Representative Porter. Later a new bill was introduced by him to replace H. R. 9053 and still later another was substituted. All of these have been opposed on the ground that undue power would be invested in the bureau to be established and that the validity of licenses issued by the states would be destroyed so far as these apply to the use of narcotics by physicians.

State Narcotic Legislation.—The Bureau of Legal Medicine and Legislation cooperated throughout the year with the Committee on Uniform State Narcotic Act of the Conference of Commissioners on Uniform State Laws in preparing a draft of a proposed uniform state narcotic act. A tentative draft so prepared was widely circulated for criticism and suggestions prior to the meeting of the conference in Memphis, in October. The criticisms and suggestions received were too numerous to be digested and acted on within the time available at that meeting, and action was postponed.

The purpose of the model state act is to embody in legal form the principles that seem to the conference to be essential in state legislation. States will then have a reasonable guide in any efforts they may make to enact new narcotic legislation, whether by way of supplement to existing laws or as substitutes for them.

No state legislation of importance with reference to narcotic drugs was enacted during the year.

WORLD WAR VETERANS' LEGISLATION

April 15, 1929, Mrs. Rogers of Massachusetts introduced in the House of Representatives a bill[4] proposing an appropriation of $11,500,000 for additional hospital, domiciliary and outpatient dispensary facilities for persons entitled to hospitalization under the World War Veterans' Act. This bill was referred to the Committee on World War Veterans' Legislation. Notwithstanding the fact that a request for notice of any hearing was filed by the Bureau the bill was favorably reported by the Committee on December 14. On Monday, December 16, the House passed it, carrying an appropriation of $14,000,000. On December 18, the Committee on Finance reported the bill to the Senate, carrying an increased appropriation. It was passed in the Senate the same day. On the next day the House adopted the increase made in the Senate. Three days later the bill was signed by the President. And yet the total number of veterans awaiting hospitalization for injuries and diseases of service origin, Dec. 1, 1929, was only 184.

This appropriation of $15,950,000 came on the heels of an appropriation made May 23, 1928, of $15,000,000. It was made by Congress and approved by the President, presumably with full knowledge of the fact that only 184 veterans were awaiting hospitalization for service-connected injuries and that the wards of existing hospitals under the control of the Veterans' Bureau were only a little more than half filled by patients suffering from service-connected injuries and diseases. Whatever may be the duty with respect to caring adequately for persons suffering from service-connected injuries and diseases, it certainly cannot be argued on any rational basis that the federal government is bound to provide medical, surgical, hospital, nursing and dispensary service for persons who are suffering from diseases or injuries not related in any way to military service.

The policy that the government has adopted with respect to the medical, surgical, hospital, nursing and dispensary care of veterans is a policy that places the federal government in competition with private practitioners and private hospitals with respect to such services. The federal government can offer such care without cost to the beneficiary only because it can compel the taxpayers to pay for such gratuities. The private practitioner and the private hospital, however, whose very existence depends on their earnings must look to their individual patients for compensation; they cannot do as the government is doing, furnish free services and then compel some person other than the beneficiary to pay for them. The present situation began with a seemingly harmless provision introduced into the World War Veterans' Act of 1924 authorizing the director of the Veterans' Bureau to allow veterans suffering from injuries or diseases not of service origin to occupy beds *not needed for injuries and diseases that originated in the service.* Now, however, the government is constructing numerous hospitals and providing many beds, solely to accommodate persons suffering from diseases and injuries in no way relating to service. The

1. S. 255, H. R. 1195 and H. R. 2039.
2. S. 878 and H. R. 2014.
3. Delaware, Maine, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, South Dakota, Tennessee, Vermont and Wisconsin.

4. H. R. 234.

excessive demands that have heretofore been made for such socialistic service from the federal government have been and are leading to still further demands, and the end is not yet in sight. The situation is grave.

REORGANIZATION OF FEDERAL HEALTH ACTIVITIES

Bills[5] were introduced in the Senate and the House to coordinate the work of the Public Health Service and of other branches of the federal government and to authorize certain modifications in the organization of the personnel of the Public Health Service. Bills[6] were introduced, too, to establish a National Institute of Health. All of these bills were in the committee at the close of the year.

FEDERAL INCOME TAXES

Earned Income of Physicians.—When the Board of Trustees made its last report, conferences were under way to adjust with the Bureau of Internal Revenue certain differences of opinion that had arisen between physicians and the bureau as to the correct method of determining the earned income of physicians who employ professional assistants. The matter is still in process of adjustment and seems likely to be settled satisfactorily to the medical profession through departmental practice.

TARIFF ON SURGICAL INSTRUMENTS

The tariff bill,[7] commonly referred to as the Smoot-Hawley tariff bill, as it passed the House of Representatives provided for increases in the duties on articles of interest to the medical profession as follows:

1. On biologic, chemical, pharmaceutic and surgical articles and utensils of all kinds, when wholly or in chief value of glass, from 65 per cent ad valorem to 85 per cent ad valorem.

2. On hemacytometers, ophthalmoscopes, slit lamps, corneal microscopes, optical measuring or optical testing instruments, testing or recording instruments for ophthalmologic purposes, and the frames, mountings and other parts thereof, from 45 per cent ad valorem to 60 per cent ad valorem.

3. On autoclaves the largest inside diameter of which exceeds 20 inches, from 40 per cent ad valorem to 50 per cent ad valorem.

4. On surgical instruments, from 45 per cent ad valorem to 70 per cent ad valorem, and dental instruments from 35 per cent ad valorem to 85 per cent ad valorem.

The increases proposed in paragraphs 1 and 2 were adopted by the House and favorably reported by the Senate Committee on Finance, but they had not been finally acted on at the close of the calendar year. The increase in the tariff on autoclaves proposed in paragraph 3 had then been adopted by the House of Representatives and by the Senate in Committee of the Whole. Increases in the duty on surgical and dental instruments, referred to in paragraph 4, were adopted by the House of Representatives. The Senate Committee on Finance, however, recommended that these duties remain as under existing tariff law, and the Senate in Committee of the Whole adopted the recommendation of the committee. At the close of the year the tariff bill was still pending in the Senate.

STATE LEGISLATION

During 1929, forty-five state legislatures were in session. Through a legislative reporting service, arrangements were made for the prompt notification to the Bureau of Legal Medicine and Legislation of all bills introduced into the several state legislatures that might be of interest to the medical profession. Promptly on receipt of notice of the introduction of a bill, the bureau mailed notices to the president, the secretary, and the chairman of the legislative committee of the state medical association within whose jurisdiction the bill was introduced, and to other members of the legislative committee if so requested by the state medical association. As soon as copies of such bills were received, they were analyzed and if any matters of particular interest were found, a second notice was sent to the representatives named of the state medical association interested in the bill. At the same time, with a view to familiarizing the medical profession of each state with matters pending in its own legislature and thus facilitating the work of the local legislative committee, abstracts of bills introduced were prepared and published in the news column of THE JOURNAL.

5. H. R. 3142 and S. 1195.
6. S. 1171, H. R. 3143 and H. R. 1200.
7. H. R. 2667.

Some state associations are thoroughly organized to do work of this character for themselves. With respect even to some of these associations, however, appreciation of the work described has been expressed, since it serves as a check that enables the state legislative committee to be certain that it has overlooked no measure of importance. Moreover, the information disseminated through THE JOURNAL reaches the profession of the states more promptly than it would otherwise reach them, except in the two states in which the medical associations publish their journals weekly. In states that are for one reason or another unable to maintain adequate legislative services of their own, the service thus rendered by the Bureau of Legal Medicine and Legislation seems to fill an essential need.

Approximately 2,500 bills of medical interest were introduced in state legislatures in 1929. The more important of these were analyzed and a summary of such analyses was published in the BULLETIN of October, 1929.

Duties and Liabilities of Practitioners.—Every year legislatures add to the liabilities and duties of physicians. Some of the new duties and liabilities thus imposed may produce for the profession some corresponding benefit. Others do not. It behooves physicians to be on their guard to see that legislation proposing to impose added duties and liabilities on physicians is carefully analyzed, and that only such legislation is enacted as will produce adequate benefits. Care should be taken, too, to see that in enacting such legislation no discrimination is exercised against the medical profession. These observations are based on certain legislation enacted in 1929, requiring physicians to make reports of various kinds.

There is, for instance, a strong tendency to require physicians to report all gunshot wounds coming to their notice. This legislation had its origin in the state of New York in 1926. A criticism of it was promptly issued in THE JOURNAL[8] and criticisms have been published since.[9] Nevertheless there is pressure, apparently coming from police officers and prosecuting attorneys, for the enactment of such legislation. Since the enactment of the law in New York, laws have been enacted in Massachusetts, California and Rhode Island. Similar laws were proposed in Ohio, Illinois and Tennessee in 1929 but were defeated. The reporting of gunshot wounds to police officers will probably aid them in detecting crime and arresting and punishing criminals. It will be most effective, however, if every one having knowledge of a gunshot wound be required to report it, and there is no reason why such an obligation should not be imposed on the community generally. To provide that reports shall be made only by physicians is an unjust discrimination against them. The law enacted in 1929 by California carried the system of reporting wounds to a logical conclusion when it required the reporting of any wound or other injury, by the act of the wounded person himself or by act of another, by means of any knife, gun, pistol or other deadly weapon. This is what the medical profession must look forward to, but it should not come about unless every person in the community is charged with a similar duty.

In Minnesota a law was enacted requiring physicians to report children who are suffering from any defect, injury or disease of a continuous nature or which might permanently handicap the child, and such reports are required to be made, not only when the physician attends or treats such a child, but when he observes any such child in a family in which he attends or treats any other person. With respect to such reports, as with respect to the reporting of wounds, the obligation should clearly be placed not only on physicians but on parents and presumably on every other person having knowledge of the situation, since physicians are required to report handicapped persons whom they are not professionally attending but whom they happen to see.

HOSPITALS AND THE CULTS

Osteopaths have been active in their efforts during the past year to compel their admission into nonsectarian hospitals. Their activity suggests that they have given up hope of estab-

8. Compulsory Reporting of Gunshot Wounds, editorial, J. A. M. A. 88: 404 (Feb. 5) 1927.
9. Compulsory Reporting of Gunshot Wounds, Current Comment, J. A. M. A. 92: 1603 (May 11) 1929.

lishing hospitals of their own. The courts generally have held that the authorities of a hospital, even of a public hospital, have the right to determine the qualifications of those who may be permitted to treat the sick within the confines of the institution. The medical profession should be on the alert, therefore, to see that it is not compelled to treat patients in institutions where patients are at the same time under the treatment of sectarian practitioners.

ORGANIZED MEDICAL DEFENSE AGAINST UNJUST MALPRACTICE CLAIMS

Twenty-six constituent state associations in 1929 were assisting their members in protecting themselves against unjust malpractice claims. Sixteen associations reported that they were not doing so, and twelve made no report. Of the twenty-six associations reporting, four put medical defense programs into operation in 1928 for the first time. Changes of varying importance were made by various associations in methods of procedure, but there were no radical departures in the conduct of such state activities.

The data published by the Bureau of Legal Medicine and Legislation with respect to malpractice defense are unsatisfactory, because of the inadequacy of information furnished by state associations, particularly information relating to claims on malpractice, as distinguished from suits in court.

Medical defense committees serve an important function even though the members of the state association are indemnified against loss and legally protected by indemnity companies. The objective to be sought by the medical profession is a reduction in the number of claims made on the basis of alleged malpractice. This will depend on a study of their causes. A study of such causes and the devising of means for prevention constitute the most important functions of a medical defense committee.

The Board of Trustees commends those state associations that are endeavoring to conduct adequate medical defense services for their members. It urges associations that are not doing so to organize for that purpose. It urges the several state associations, too, to cooperate with the Bureau of Legal Medicine and Legislation in assembling data relative to such state activities, in order that each constituent state association may have the benefit of published reports showing the experience of other state medical associations in the same field of work.

MISCELLANEOUS

Various matters that are technically before the Bureau of Legal Medicine and Legislation have been necessarily held in abeyance, awaiting adequate opportunities to activate them. Among these are the regulation of expert testimony, the regulation of the promulgation of the regulations by federal officers, and the regulation of the sale of cosmetics.

Bureau of Health and Public Instruction

CORRESPONDENCE

The general correspondence of the Bureau of Health and Public Instruction was materially increased during 1929. More than 4,000 inquiries concerning one therapeutic product were received by the Bureau of Health and Public Instruction in 1929, this being in addition to the general correspondence. In some of these, other information also was sought.

More than 300 questions submitted to HYGEIA were referred to this bureau during the past year and were answered through the columns of HYGEIA. A considerable number of these questions were submitted to specialists in the several fields of medicine, who gave generously of their time and effort to make available satisfactory answers.

RADIO HEALTH TALKS

Three hundred and two radio health talks were delivered over station WBBM under the direction of the bureau. These elicited far greater response from radio listeners than in any previous year and resulted in bringing to the Association numerous requests for pamphlets and reprints from the Association press.

In the belief that many component county medical societies could well engage in efforts for informing the public through radio broadcasting, inquiry was made during the year as to the number of these societies having access to broadcasting stations. Replies were received from 150 county medical societies and indicated that stations were available for the use of 130. The secretaries of seventy county medical societies reported an interest in educational work of this nature and indicated that an effort would be made to secure the use of the necessary facilities for carrying out radio programs. Many requests have come to the bureau for copies of health talks delivered from the headquarters office. Many of these are taken directly from HYGEIA or from health reports, but thirty-five have been mimeographed and copies are available for the use of county medical societies without charge. The bureau is planning to do what it can to assist component county medical societies toward making this activity effective because, by this means, it is believed that the Association, through its component societies, can reach large numbers of persons and thus accomplish important work in the dissemination of authoritative information.

ADDRESSES AND EXHIBITS

The director and assistant director of the bureau delivered twelve addresses in 1929 before twelve lay organizations in five different states.

Exhibits of the educational material were made during the year at nine meetings of medical societies in nine states. In addition, much exhibit material has been provided for display at meetings of medical societies and other important professional and lay organizations.

DISTRIBUTION OF PRINTED MATERIAL

During the year more than 155,000 copies of pamphlets and posters of the bureau were distributed dealing with a wide range of subjects, including cancer, vision, sex education, infant welfare, periodic health examinations, communicable diseases, and the like. Eighteen new pamphlets were added during the year.

PERIODIC HEALTH EXAMINATIONS

The bureau has continued its efforts to popularize the periodic examination of apparently healthy persons. The distribution of forms to be used in recording the observations in periodic health examinations was accomplished in a gratifying manner, 74,000 of these forms having been sent out. The demand for the health examination manual has been fairly well maintained. There has been some important revision of the examination forms, and a revised edition of the health examination manual is contemplated.

STUDY OF CAPITAL INVESTMENT IN MEDICINE AND THE PHYSICIAN'S INCOME

The assistant director of the Bureau of Health and Public Instruction has devoted a large part of his time during the year to the compilation of statistics dealing with capital investment in medicine and the income of physicians. The response from the profession generally has not been large enough to make it possible to arrive at representative figures concerning either the investment required in medical practice or the income of physicians. Thousands of questionnaires concerning income have been distributed but an undue portion of the returns have come from the large cities of the country and from physicians engaged in special lines of work.

This work is being prosecuted in the hope that dependable information may be secured which will establish at least the approximate truth regarding the expenses incurred by a physician in preparing himself for his life work and in maintaining himself in the practice of medicine, and with respect to the compensation he receives for his professional services.

COOPERATION WITH OTHER AGENCIES

The Association, through the Bureau of Health and Public Instruction, has continued its cooperation with the National Education Association and with various other important bodies. Helpful contacts have been established with the National Congress of Parents and Teachers, which now has more than 1,500,000 members. The Summer Round-Up Campaign of Preschool Children, inaugurated in 1925 under the auspices of this body, has come to be a very important activity. The Bureau of Health and Public Instruction has made an earnest effort to cooperate helpfully with the parent-teacher organization to

the end that the work in the schools conducted under its auspices shall be done to the best possible advantage by utilizing the services of competent physicians in a manner that will not violate the best interests of the medical profession or of the public.

The Bureau of Investigation

The work of the bureau for the past year has been far heavier than for any previous year of its existence. Not only have more general inquiries been received and answered, but there has been a great addition to the work of the bureau as a result of inquiries received from constituent state medical associations and component county medical societies concerning applicants for membership, and from state boards of medical examiners. State examining boards are utilizing the information accumulated in the Bureau of Investigation far more than ever before in determining the fitness of applicants for license in the various states. Several constituent state medical associations and a number of component county medical societies have adopted as a routine procedure the measure of sending names of all applicants for membership to the American Medical Association for the purpose of securing such information about these applicants as is available in the Association's files. In the year 1929, more than 10,000 inquiries of a general nature were received and answered by the bureau, of which 6,350 came from laymen and 4,078 from physicians. This represents a considerable increase in the correspondence and work of the bureau in disseminating what is intended to be helpful information, even though many inquiries which were formerly answered by the bureau are now being referred to other departments of the Association.

More and more, Better Business Bureaus and governmental agencies are availing themselves of the services of the Bureau of Investigation. The National Better Business Bureau as well as local bureaus is showing an increasing interest in advertising in the medical field. This is of especial importance since it means that nonmedical agencies are at last taking hold of a public health problem that heretofore has been shouldered almost entirely by the medical profession.

The director of the bureau has cooperated to the fullest possible extent with government bodies in Washington and elsewhere in the efforts of these official bodies to protect the public against imposition by the promoters of nostrums and appliances of various kinds for which undue claims for therapeutic efficiency have been made. The director of the bureau has appeared before the Federal Radio Commission to protest against what was thought to be harmful medical advertising over the radio.

The director has prepared 117 articles, which have been published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, dealing with twenty-eight subjects coming within the scope of the bureau's work, four dealing with various phases of the nostrum evil and quackery. In addition, the director has participated in the broadcasting program of the Association, filling fifteen broadcasting periods over station WBBM.

There has been the usual demand for the lantern slide loan service of the bureau on the part of physicians, public health officials and instructors who have wished to give illustrated talks on the nostrum evil and quackery. The demand for the pamphlets and leaflets issued by the bureau has been well maintained, and the posters on quacks and "patent medicines" were distributed in greater numbers in 1929 than in any previous year.

The Chemical Laboratory

The Chemical Laboratory has not only continued but has extended its work of investigating therapeutic remedies, particularly those sold to the medical profession. Also it has continued to furnish the Bureau of Investigation with analyses of certain nostrums sold to the public.

THE WORK FOR THE COUNCIL ON PHARMACY AND CHEMISTRY

Year by year the average product examined in the laboratory becomes more and more complex in composition. These nonofficial remedies are often the results of high grade chemical research, sometimes from the laboratories of pharmaceutic houses, at other times from the laboratories of institutions or universities. The character of the work is such that it requires most thorough and painstaking investigation in order that the Chemical Laboratory will be in a position to assure the Council on Pharmacy and Chemistry of the identity and purity of products examined. While it is relatively simple to determine the general classification of a product, it is not a simple matter when it comes to unusual formula structure, physical-chemical attributes, freedom from deterioration, and the like, all of which have great bearing on the decision of the Council in considering the evidence for the chemical, pharmacologic and therapeutic claims of the drug, or determining whether or not the manufacturer is entitled to proprietary rights for having evolved a new essential remedy. Following such determinations, it is then necessary, in case a product is otherwise acceptable to the Council, to evaluate standards for New and Nonofficial Remedies. The standards evaluated now are quite different in character from those of ten years ago. Today it is the policy of the laboratory that the standards should include not only the assay of the principal ingredient but also chemical methods whereby the molecular ratio of compounds of the molecule may be kept within rigid limits.

During the past year, the laboratory has dealt with a number of new substances or new modifications of well known drugs. Four different derivatives of barbituric acid were examined, each representing a proprietary barbital derivative of an individual firm. In two cases the products were found acceptable and standards drawn up accordingly. In the other two cases, the products first submitted were not acceptable. One of these has been purified and is chemically acceptable; in the case of the other product the firm has repeatedly submitted protocols; in the opinion of the laboratory these do not contain evidence to justify the claims concerning which the laboratory expressed doubt on the basis of previous experiments. The laboratory also was called on to examine Synthetic Thyroxine, in view of the fact that the United States Pharmacopeia definition of Thyroxin excluded the synthetic substance.

The amount of work which the laboratory does in cooperation with the manufacturers is increasing greatly. It is debatable just how much should be done. For instance, during the year 1929 about one third of the work which the laboratory did at the request of the Council on Pharmacy and Chemistry concerned products which had not been found acceptable at the time of the first examination, but, after criticism by the laboratory, were made acceptable. There was not one large pharmaceutic firm which did not have one or more products which, on first submission, it was necessary to criticize or refuse. It is greatly to the public benefit that there is an unbiased body to safeguard the quality of therapeutic products whose work is received and appreciated by earnest manufacturers.

Almost two years ago, investigation was undertaken of certain active principles isolated from squill which had been submitted to the Council on Pharmacy and Chemistry. As a result of the laboratory's report, the entire product was reinvestigated by the manufacturer with the result that, in place of one substance, there were found to be present three substances heretofore undiscovered, all of which it was necessary for the laboratory to standardize before the proprietary form could be considered by the Council on Pharmacy and Chemistry.

Bismuth preparations of a complex nature still demand the attention of the laboratory. Five complex preparations were investigated during the past year. Four of these preparations, on first submission, did not meet the standards which the laboratory felt should be enforced. For the fifth product there were claims of composition which the laboratory could not accept. As a result, both a series of examinations by the laboratory and further work on the product by the firm were made; the firm accepted the conclusions of the laboratory, so that suitable standards were then evolved in which the product was described under a general formula rather than under a definite but debatable molecular structure.

In large measure the work of the laboratory, in its investigations of new remedies, is based on very technical discussion and the development of new methods of assay. The laboratory has always been more or less a pioneer in the matter of developing new methods. It has also been grateful to members of the scientific staff of pharmaceutic houses for suggestions which have aided it in some of the clinical problems. Incidentally, it

is interesting to note that, as the complexity of the products increases, it is often necessary to revert to the old classic methods, such as the application of the Carius method in an effort to break down certain complex organic-inorganic compounds. For instance, in 1929 it was necessary to resort to the Carius type of analysis in certain complex compounds in the determination of sulphur, of mercury, of bismuth and of halogens.

The laboratory has continued to examine ephedrine preparations. Despite the amount of scientific work which has been published by the laboratory on the standards of ephedrine and its salts, there is still some necessity for examining the dosage forms. In like manner, the laboratory has continued to examine the various dextrose ampules offered on the market. It is astonishing how a simple substance like solution of dextrose may be found, on examination in the laboratory, to be quite in contradiction to the quantitative claims made for it. As an example, one firm of manufacturing chemists was so certain that the laboratory's adverse comments on a dextrose solution were wrong that it challenged the laboratory's observations and even questioned the competence and integrity of the laboratory. It was, therefore, amusing to receive a letter six months later from the same firm containing an apology and a statement that the firm had now confirmed in entirety the laboratory's observations concerning its product.

WORK FOR THE BUREAU OF INVESTIGATION

The work for the Bureau of Investigation has proceeded along lines reported heretofore. Reports on products have appeared from time to time in THE JOURNAL. As is customary, the laboratory at times has submitted products (after completion of the chemical examination) to pharmacologists to determine whether the pharmacologic observations are in consonance with those of the laboratory generally concerning the absence of active ingredients. This was done in four instances last year; in each case, the pharmacologic work bore out the observations of the laboratory.

INDEPENDENT INVESTIGATIONS

The laboratory continues to be overwhelmed with requests for examination of various products, particularly from the Council. Furthermore, it has carried on the usual amount of work for the Bureau of Investigation. Therefore, the amount of independent investigations has been somewhat limited during the past year, despite the fact that there was an increase in the personnel of the staff, July 1. Four articles reporting the work on acriflavine which had been carried on in this laboratory over a period of four years were published in the *Journal of the American Pharmaceutical Association* in July, 1929. As a result of the comparison of the various American and European brands of acriflavine hydrochloride (acriflavine) and acriflavine base ("neutral" acriflavine), the investigator concluded that there is not sufficient difference in the purity to justify the statement that the foreign product is superior to the domestic, even though at times the brands differ in appearance. This series of articles, which contain many technical data, particularly for the purpose of rigorous standardization, is another illustration of the service of the Association's Chemical Laboratory. The medicinal dye standards by Collins demonstrate some of the difficulties confronting the investigators of new drugs. The standards have been welcomed by the workers in pharmaceutic chemistry. Such work not only aids the medical profession in a better understanding of the newer drugs but serves to inspire confidence in the nonofficial drugs which have been standardized by the American Medical Association Chemical Laboratory and accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies.

Other independent investigations under way deal with iodoxy benzoate, and with the estimation of phenolphthalein in mixtures and further work on the evaluation of bismuth compounds. The laboratory has not had opportunity as yet to reexamine many of the products in New and Nonofficial Remedies, particularly in light of the newer chemical methods, and in light of the more modern interpretations on assaying. It hopes it may begin a series of reinvestigations during the coming year. It cannot emphasize too frequently that the basis for all therapeutic evaluation of drugs lies first in the knowledge of the composition as well as the chemical constitution of the remedy.

COOPERATION WITH THE AMERICAN DENTAL ASSOCIATION

The laboratory has cooperated to the fullest possible extent with the American Dental Association, which has recently established a council on dental therapeutics.

MISCELLANEOUS

Correspondence still increases as members and Fellows make use of the files of the Council on Pharmacy and Chemistry and the Chemical Laboratory. Problems of chemical interest to physicians are frequently referred to the laboratory. Much time is devoted to furthering the work of the library staff, particularly in the work of the QUARTERLY CUMULATIVE INDEX MEDICUS, in aiding in the classification of various compounds under common chemical designations and supplying information concerning active ingredients in proprietary preparations for proper classification. The laboratory also has continued service to THE JOURNAL and to HYGEIA. Besides, its personnel has taken part in various national and state meetings and has cooperated with many of the working committees of the American Medical Association.

The Annual Scientific Exhibit

The number of individual exhibits at the Portland session was 113 and the total number of exhibitors approximately 240. The arrangement at Portland was not as satisfactory as exhibits heretofore because of the type of hall that was available. However, the exhibits were unusually impressive, and personal demonstrations were even more in evidence than at Minneapolis. Strict admission requirements were enforced, so that only those who were Fellows, or who wore guest buttons, were permitted to visit the Scientific Exhibit. Arrangements were made, however, for a limited number of nurses from the local hospitals to visit the exhibit; admission was by card, at stated hours.

Closer contacts than at any previous session were developed between the Scientific Exhibit and the sections. Four of the sections sponsored exhibits.

The Section on Dermatology and Syphilology had another of its excellent exhibits. Out of twenty-two papers presented before the section, fifteen were illustrated in the Scientific Exhibit. The committee in charge of this exhibit was composed of C. W. Finnerud, M.D., Chicago; John H. Labadie, M.D., Portland, Ore.; H. E. Michelson, M.D., Minneapolis, and F. D. Weidman, M.D., chairman, Philadelphia.

The Section on Radiology held its second exhibit at Portland, showing vast improvement over its first exhibit at Minneapolis. The gold medal, class I, was awarded to one of the participants in the Radiologic Section Exhibit. The Committee on Radiologic Section Exhibit was composed of Lloyd Bryan, M.D., San Francisco; Dorwin Palmer, M.D., Portland, and P. H. Hickey, M.D., chairman, Ann Arbor, Michigan.

The Section on Ophthalmology, with the American Social Hygiene Association and the National Society for the Prevention of Blindness cooperating, sponsored an exhibit on eye infections. This exhibit was under the auspices of a committee composed of Arthur J. Bedell, M.D., Albany, N. Y.; Harry S. Gradle, M.D., Chicago; Bernard Samuels, M.D., New York, with B. Franklin Royer, M.D., representing the National Society for the Prevention of Blindness and Walter M. Brunet, M.D., of the New York Tuberculosis and Health Association representing the American Social Hygiene Association.

The fourth section exhibit was that under the auspices of the Section on Diseases of Children, which sponsored an exhibit dealing with vitamins as applied to infant feeding, and milk and its modifications. The committee was composed of Jay Durant, M.D., Seattle; C. G. Grulee, M.D., Chicago; McKim Marriott, M.D., St. Louis; J. W. Rosenfeld, M.D., Portland, Ore., and L. Howard Smith, M.D., chairman, Portland. Exhibits of investigators from the University of Oregon Medical School were grouped together. Two exhibits in this group received a bronze medal each.

The three special exhibits authorized by the Board of Trustees continued to be points of great attraction. The Fresh Pathology Exhibit was replete with unusual surgical and

necropsy material. It was demonstrated by a corps of pathologists under the direction of Dr. Frank R. Menne, professor of pathology, University of Oregon Medical School, Portland.

Continuing the program of last year were the seven exhibits under the direction of the Cooperative Committee on Fractures, composed of Drs. Nathaniel Allison, William Darrach and Kellogg Speed. In each of the booths there was a volunteer from the U. S. Army Medical Section, acting as a subject for demonstration. A different demonstrator was present morning and afternoon in each of the booths. The aisles were crowded with interested spectators. Aiding the Cooperative Committee were an advisory committee and seventy physicians from all parts of the United States, who gave the demonstrations.

The third special exhibit dealt with diagnostic biochemical methods. An almost complete laboratory was built on the auditorium floor with all the facilities for modern diagnostic methods. Here were shown both the advantages and the limitations of biochemical methods of diagnosis. The exhibit was in active charge of Dr. V. C. Myers, professor of biochemistry at Western Reserve University School of Medicine, with the collaboration of Drs. O. H. Gaebler, R. S. Hubbard, J. A. Killian, E. R. Norris, J. H. Roe and J. E. Winter.

Following the established policy of the Committee on Scientific Exhibit, all material was presented in the names of individuals and not under the name of institutions in which investigations were made, with the exception of the work of the educational organizations.

The variations in the individual exhibits and the tremendous amount of scientific work represented by the different specialties made it necessary to appoint six to serve on the Committee on Awards. The committee was composed of Dr. C. R. Bardeen, Madison, Wis., anatomy and medicine; Dr. G. C. Lane, Boston, dermatology; Dr. William Ophuls, San Francisco, pathology; Dr. O. H. Wangensteen, Minneapolis, surgery; Dr. W. W. Wasson, Denver, radiology, and Dr. G. B. Webb, Colorado Springs, internal medicine. Practically every member of this committee spent a whole day and a half in the Scientific Exhibit, studying the various exhibits.

As a result of experience at Portland, an exhibit booth has been developed that will be used for the next two or three years.

The Scientific Exhibit has come to be an outstanding feature of the annual session. Each succeeding year brings to it a larger attendance of eagerly interested physicians who linger to study its instructive material. It commands the services of many of the most prominent teachers and practitioners, who give generously of their time and effort to promote its educational value. The Scientific Exhibit is under the direction of a committee of three of the Board of Trustees. The executive work of the exhibit is done by the director of the exhibit, an employee of the Association, in cooperation with the committee. Every application for space is submitted to the Committee on Scientific Exhibit and is carefully considered by each member of the committee. Votes are then collected and the application is accepted or rejected on unanimous vote of the committee; otherwise the application is referred back to the committee for a second vote.

The Board of Trustees makes grateful acknowledgment to section officers, to the various committees in charge of section and special exhibits, and to exhibitors for their splendid cooperation which has made the exhibit an event each year, not only in medicine, but in science in general.

The Central Scientific Exhibit

The scope and character of the Central Scientific Exhibit was detailed in a report to the Board of Trustees last year. It has been necessary to develop a satisfactory type of display case. At the writing of this report, a relatively large amount of equipment is being installed in the Central Scientific Exhibit.

In addition to the exhibits accepted at the Minneapolis Session (see last year's report), the following exhibits were taken from the Portland Session for installation in the Central Scientific Exhibit:

Exhibit of Dr. Eugene P. Pendergrass and Dr. Temple Fay on encephalography; exhibit of Dr. Clay Ray Murray on bone trauma and repair; exhibit of Dr. A. V. Hardy on undulant fever.

By the time of the publication of this report, the Central Scientific Exhibit will be open every day to visitors. Members and Fellows of the Association passing through Chicago are invited to see it. They will find it quite different from the usual museum type.

Report of the Committee on Scientific Research

During the year twenty-two new grants (150 to 171) have been made, amounting to $14,150. The expenses of the committee for the year were $1,015.14. In all cases the grants have been made for materials and other necessary expenses for the proposed work and not for the salary of the worker. The money granted has been paid to the financial officer of the institution with which the grantee is connected. This method insures accurate accounting of the moneys, which are disbursed on requisition by the grantees. Recent reports from all but one or two of the grantees indicate that the work under the new grants is progressing satisfactorily. A table showing grants made will be found in the appendix.

Advisory Committee on Trachoma Among the Indians

The Advisory Committee on Trachoma Among the Indians, composed of Dr. William H. Wilder, chairman, Dr. Arnold Knapp, Dr. William Campbell Posey and Dr. Francis I. Proctor, having concluded the work assigned to it, has been discontinued at its own request. The Board of Trustees has conveyed to this committee an expression of its gratitude for the splendid services rendered.

Building and Equipment

The Board of Trustees is proceeding carefully with its plans for providing new and enlarged housing facilities in Chicago. As was reported to the House of Delegates last year, a part of the property needed for a new building has been secured and is fully paid for. At the time this report is being compiled, negotiations are proceeding for the purchase of additional property that will be necessary for carrying out present building plans. In the meantime, the building now occupied has been maintained in the best possible order and is being utilized to the greatest possible advantage, though it is inadequate to serve the needs of the Association.

Necessary additions have been made to mechanical equipment, and machinery heretofore used has been kept up to the highest possible plane of operative efficiency. It has been necessary to purchase a new printing press considerably larger than any heretofore used. One of the rotary presses that has been in constant service for more than twenty-three years will soon have to be discarded and this is true, also, of some other units in the printing department. The press that has already been bought will entail an expenditure of $70,000, and necessary replacements and additions to mechanical equipment will involve further expenditures of considerable amount.

The Scope of the Association's Work

Apparently many members do not have any genuine appreciation of the scope of the work of the Association. Many seem to be unaware that any activities are engaged in except those necessary for the production of THE JOURNAL; others appear to believe that the Association is concerned only with the publication of its periodicals.

The reports of the Treasurer and Auditor will show that expenditures of the councils, bureaus and other departments of the Association in Chicago were more than $280,000 during the past year. The expenditures represented in this sum are in addition to miscellaneous charges due to cost of publication of special journals, the Directory and incidental expenses involved in the conduct of the Association's business. All of this, of course, is in addition to the expense arising from the publication of THE JOURNAL.

The councils of the Association are constantly carrying on constructive and significant work in the promotion of scientific medicine; the Association's bureaus deal with matters pertaining to the interests of the medical profession and the public welfare. In addition, they constitute a service department through which information is continually being disseminated to the officers of component and constituent medical societies and to individual members of the Association as well as to the general public.

It is manifestly impossible for the Board of Trustees to cover in detail in its report all the routine activities of the organization. Efforts are constantly being made to keep the general membership informed about the Association's work through the columns of THE JOURNAL and of the BULLETIN and through other printed material, as well as through the sending of official representatives to the meetings of medical societies.

It would be greatly to the benefit of the Association if its members would take advantage of the avenues open to them for securing information concerning the work of the Association, and if all the members of the House of Delegates would make comprehensive reports of the proceedings of this body at the annual sessions of the associations they represent.

Respectfully submitted.

EDWARD B. HECKEL, Chairman.
J. H. WALSH, Secretary.
D. CHESTER BROWN.
ALLEN H. BUNCE.
THOMAS C. CULLEN.
A. R. MITCHELL.
JOSEPH A. PETTIT.
ROCK SLEYSTER.
J. H. J. UPHAM.

APPENDIX

GRANTS MADE BY THERAPEUTIC RESEARCH COMMITTEE

One at $100	$ 100
Three at $200	600
Four at $250	1,000
One at $300	300
One at $400	400
One at $600	600

The following is a detailed list of these grants:

Grant 144: W. F. von Oettingen, senior instructor of pharmacology, Western Reserve University School of Medicine, $100, to investigate the synthesis and pharmacology of aromatic lactones.

Grant 145: W. F. von Oettingen, senior instructor of pharmacology, Western Reserve University School of Medicine, $200, to investigate the synthesis and pharmacology of choline derivatives.

Grant 146: Nora E. Schreiber, research assistant, Department of Pharmacology, Morley Chemical Laboratory, Western Reserve University, $250, to investigate the excretion of mercury under different methods of administration.

Grant 147: J. F. McClendon, professor of physiologic chemistry, and George Burr, University of Minnesota Medical School, $400, to investigate the effects of ovarian hormone on normal and ovariectomized women and those with amenorrhea.

Grant 148: Harry R. Trattner, M.D., demonstrator of surgery, Western Reserve University, $200, to investigate the action of sympathetic and parasympathetic drugs on ureteral activity.

Grant 149: F. T. Lord, M.D., instructor in medicine, Harvard University Medical School, $250, to investigate the relation of protective substance in the patient's serum to the outlook in lobar pneumonia and the agglutination test as an indication of dosage of Felton's antibody solution.

Grant 150: George R. Cowgill, assistant professor of physiologic chemistry, Yale University Laboratory of Physiological Chemistry, $250, to investigate the effects of vitamins F and G on dogs.

Grant 151: Robert Gesell, professor of physiology, University of Michigan Medical School, $250, to investigate respiratory and circulatory control.

Grant 152: C. W. Greene, professor of physiology and pharmacology, University of Missouri School of Medicine, $300, to investigate the reaction of the coronary system to drugs.

Grant 153: E. A. Doisy, director and professor of biologic chemistry, St. Louis University School of Medicine, $600, to investigate bio-assays of ovarian hormone preparations.

Grant 154: Jean R. Oliver, professor of pathology, Hoagland Laboratory, Long Island College Hospital, $200, to investigate experimental nephritis.

The following grants were issued before Jan. 1, 1929. In some cases the grant has expired and an unexpended balance remains, or the work is not yet completed or a report has not yet been published:

Grant 88: M. S. Dooley, professor of pharmacology, Syracuse University College of Medicine, $75, to aid in the completion of an investigation on a comparison of the results of intramuscular injections in the frog of various preparations of digitalis, with colorimetric assays.

Grant 102: Charles W. Greene, professor of physiology and pharmacology, University of Missouri Department of Physiology, $250, to investigate the distribution of nitrous oxide and oxygen in the blood during anesthesia.

Grant 110: E. E. Ecker, assistant professor of immunology, Department of Pathology, Western Reserve University School of Medicine, $200, to investigate the action of bacterial filtrates on intestinal movements.

Grant 119: Nicholas Kopeloff, associate in bacteriology, Psychiatric Institute, New York City, $100, to investigate bacillus acidophilus milk for the prevention and treatment of summer diarrhea in babies.

Grant 121: Cary Eggleston, assistant professor of clinical medicine, Cornell University, $100, to investigate the status of intravenous therapy.

Grant 125: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $200, to investigate the conditions under which insulin may be administered effectively by the alimentary tract.

Grant 127: W. F. Hamilton, associate professor of physiology, University of Louisville School of Medicine, $125, to investigate circulation time and cardiac output.

Grant 132: David Rapport, Department of Physiology, Tufts College Medical School, $200, to investigate the physiologic effect of certain compounds of tyrosine.

Grant 135: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $100, to investigate the conditions under which insulin may be administered effectively by the alimentary tract.

Grant 137: Robert Gesell, professor of physiology, University of Michigan Medical School, $250, to investigate respiratory and circulatory control.

Grant 139: John R. Murlin, director and professor of physiology, Department of Vital Economics, University of Rochester School of Medicine, $200, to investigate the conditions under which insulin may be administered effectively by the alimentary tract.

Grant 141: J. Murray Luck, assistant professor of biochemistry, Stanford University, $150, to investigate the effect of insulin on protein metabolism.

Grant 142: Bernard E. Read, Department of Pharmacology, Peiping Union Medical School, $200, to investigate ephedra and ephedrine.

Grant 143: Cleveland J. White, M.D., 104 South Michigan Avenue, Chicago, $150, to investigate the local, general and prophylactic aspects of superficial fungous diseases of the skin.

The following is a list of the investigations conducted under the Therapeutic Research Committee which were published during 1929:

1. Thayer, Sidney; and Doisy, E. A.: The Distribution of the Ovarian Hormone Between Liquor Folliculi and the Residual Tissue, *Endocrinology*, November-December, 1928. (While this paper was published in 1928, the reprints were not received until April 3, 1929. It has been included with the 1929 volume, although it has not been our practice to include papers published in a previous year to the issue of the volume.)

2. Cole, H. N.; Gammel, John; Schreiber, Nora E., and Sollmann, Torald: Mercuric Salicylate: A Study of Its Excretion in the Treatment of Syphilis, *Arch. Dermat. & Syph.*, January, 1929.

3. McClendon, J. F., and Remington, R. E.: The Determination of Traces of Iodine: II. Iodine in Vegetables, *J. Am. Chem. Soc.*, Feb. 5, 1929.

4. Chen, K. K., and Jensen, H.: A Pharmacognostic Study of Ch'an Su, the Dried Venom of the Chinese Toad, *J. Am. Pharm. A.*, March, 1929.

5. Hanzlik, P. J.: A New Method of Estimating the Potency of Digitalis: Pigeon-Emesis, *J. Pharmacol. & Exper. Therap.*, April, 1929.

6. Jensen, H., and Chen, K. K.: A Chemical Study of Ch'an Su, the Dried Venom of the Chinese Toad, with Special Reference to the Isolation of Epinephrine, *J. Biol. Chem.*, May, 1929.

7. Hunt, Reid; McCann, W. S.; Rowntree, L. G.; Voegtlin, Carl; and Eggleston, Cary: The Status of Intravenous Therapy: VI. The Intravenous Use of Glandular Products, THE JOURNAL, June 22, 1929.

8. Hatcher, R. A., and Haag, H. B.: A Preparation of Digitalis Suitable for Injection or Oral Administration, *J. Am. Pharm. A.*, June, 1929.

9. Von Oettingen, W. F., and Garcia, F.: The Toxicity and Vermicidal Properties of the Dilactone of Acetone Diacetic Acid and Beta Angelica Lactone in Cats: Dilactone and Beta Angelica Lactone as Anthelmintics, *J. Pharmacol. & Exper. Therap.*, July, 1929.

10. Von Oettingen, W. F.: Comparison of Various Lactones with Santonin: I. Studies of Chemical Constitution and Pharmacological Action, *J. Pharmacol. & Exper. Therap.*, July, 1929.

11. Kinsman, J. M.; Moore, J. W., and Hamilton, W. F.: Studies on the Circulation: I. Injection Method: Physical and Mathematical Considerations, *Am. J. Physiol.*, July, 1929.

12. Oliver, Jean; and Shevky, Eshref: A Comparison of the Manner of Excretion of Neutral Red and Phenol Red by the Frog's Kidney, *J. Exper. Med.*, July 1, 1929.

13. Cole, H. N.; Rauschkolb, J. E.; Schreiber, Nora E., and Sollmann, Torald: Massive Weekly Inunctions with Mercury, *Arch. Dermat. & Syph.*, August, 1929.

14. Lord, F. T., and Nesche, G. E.: Antibody and Agglutinin in Pneumococcus Pneumonia, *J. Exper. Med.*, October, 1929.

15. Oliver, Jean; and Shevky, Eshref: A Mechanism of Conservation in the Kidneys of the Winter Frog, *J. Exper. Med.*, November, 1929.

16. Tainter, M. L., and James, Martha: The Pharmacological Activity of Orthophenylenediamine, *Extrait des Arch. internat. de pharmacod. et de thérap.*, 1929.

17. Tainter, M. L.; James, Martha; and Vandeventer, W.: Comparative Edemic Actions of Ortho-, Meta- and Para- Phenylenediamines in Different Species, *Extrait des Arch. internat. de pharmacod. et de thérap.*, 1929.

18. Chen, K. K., and Jensen, H.: Crystalline Principles from Ch'an Su, the Dried Venom of the Chinese Toad, *Proc. Soc. Exper. Biol. & Med.*, 1929.

19. McClendon, J. F.; Burr, George; and Wildebush, F. F.: Induction of Menstruation in Women by Use of Ovarian Hormone, *Proc. Soc. Exper. Biol. & Med.*, 1929.

20. McClendon, J. F., and Burr, George: Basal Metabolism of a Woman Not Secreting Ovarian Hormone After Its Injection, *Proc. Soc. Exper. Biol. & Med.*, 1929.

21. McClendon, J. F.: Variations in Basal Metabolism and Their Relation to Skin Temperature, *Proc. Soc. Exper. Biol. & Med.*, 1929.

22. Wildebush, F. F., and McClendon, J. F.: A Method for Assay of Ovarian Hormone in Blood and Urine and Relation of Assay to Menstrual Cycle, *Proc. Soc. Exper. Biol. & Med.*, 1929.

GRANTS AND FINANCIAL STATEMENT OF COMMITTEE ON SCIENTIFIC RESEARCH

NEW GRANTS

Grant 150: Benjamin Friedman, Knapp Memorial Eye Hospital, New York, $200 for the study of ocular pulsations by graphic methods.

Grant 151: B. Z. Rappaport, University of Illinois College of Medicine, $300 for experimental work on human ascariasis.

Grant 152: A. H. Smith and T. S. Moïse, Yale University, $400 for study of the relation of diet to renal physiology and pathology in continuance of the work under grant 121, 1927.

Grant 153: G. A. Talbert, University of North Dakota, $300 for the continuation of the study of the constituents common to the sweat, blood and urine, aided by previous grants (104 and 122, 1927, and 135, 1928).

Grant 154: Robert Hegner, School of Hygiene and Public Health, Johns Hopkins University, $1,500 for studies of the host-parasite relations in man in continuation of work under grants 101 (C. A. Brant fund), 1926, and 125, 1927.

Grant 155: F. D. Weidman, University of Pennsylvania, $100 for a study of the elimination of dyes by the skin.

Grant 156: C. I. Reed, University of Illinois College of Medicine, $300 for a study of the effects of phototherapy by way of the skin.

Grant 157: C. H. Frazier, University of Pennsylvania, $1,000 for field study of families with tendencies to deafness.

Grant 158: G. R. LaRue and A. S. Warthin, University of Michigan, $2,000 for work on the broad tapeworm in continuation of work under grants 131, 1928, and 96, 1925.

Grant 159: R. L. Moodie, Santa Monica, Calif., $300 to complete a study of otosclerosis and other causes of deafness among pre-Columbian Peruvians under grant 127, 1928.

Grant 160: Helen Bourquin, University of Michigan, $500 for work on diuretic substance of experimental diabetes insipidus and the study of its properties, in continuation of the work under grants 120, 1927, and 102, 1926.

Grant 161: E. B. Hart, University of Wisconsin, $600 for work on the factors influencing the distribution of copper in animal tissues with particular reference to the storage of copper in the tissues of the fetus and its influence in preventing anemia during the suckling stage, in continuation of work under grant 134, 1928.

Grant 162: J. P. Simonds, Northwestern University Medical School, $100 for a study of the action of cinchophen and its derivatives on the liver.

Grant 163: George Hermann, Tulane University School of Medicine, $750 for the study of problems of the circulation.

Grant 164: J. H. Black, Baylor University College of Medicine, $100 for the chemical study of ragweed pollen.

Grant 165: L. R. Whitaker, Boston University School of Medicine, $600 for work on the physiology and pathology of the gallbladder, in continuation of work under grant 141, 1928.

Grant 166: H. F. Thurston, Indianapolis, $500 for the study of the toxemia of acute intestinal obstruction.

Grant 167: Hans Jensen, Johns Hopkins University, $500 for aid in the chemical and physiologic study of toad poisons.

Grant 168: V. C. Jacobsen, Albany Medical College, $500 for the study of the effects on animal tissues of alternating current of ultra high frequency.

Grant 169: H. J. Howard, Washington University School of Medicine, $600 for aid in research in ophthalmic bacteriology.

Grant 170: G. E. Burget, University of Oregon School of Medicine, $500 for continuation (grant 149, 1926) of a study of the effect of hydraulic pressure in closed intestinal loops.

Grant 171: National Research Council, $2,500 for the study of undulant fever under the auspices of the council's committee on infectious abortion.

STATE OF WORK UNDER PREVIOUS GRANTS

1. COMPLETED DURING THE YEAR

Grant 81, 1925: $100 to W. G. Lennox, Harvard Medical School, for work on epilepsy. The work has been completed and the results published: Lennox, W. G.; Nelson, Roger; and Beetham, W. P., Studies in Epilepsy—Factors Affecting Convulsions Induced in Rabbits, *Arch. Neurol. & Psychiat.* **21:** 625 (March) 1929.

Grant 87, 1926: $1,000 to E. R. Hayhurst, University of Ohio, for study of silicosis. The work has been completed, an account has been rendered of the expenses, and the results have been published: Kindel, D. J., and Hayhurst, E. R.: Stereoscopic X-Ray Examination of Sandstone Quarry Workers, *Am. J. Pub. Health* **17:** 818, 1927. Hayhurst, E. R.; Kindel, D. J.; Neiswander, B. E., and Barrett, C. D.: Silicosis with Low Incidence of Tuberculosis, *J. Indust. Hyg.* **11:** 228, 1929.

Grant 93, 1926: $1,200 to V. C. Jacobsen, Albany Medical College, for study of the effects of high-voltage cathode rays on living tissue. The work under this grant has been completed, account has been made of the expenses ($283 refunded) and the results have been published: Jacobsen, V. C., and Waddell, K. C.: Effects of High-Voltage Cathode Rays on the Skin of the Rat, *Arch. Path. & Lab. Med.* **5:** 195 (Feb.) 1928. Other articles will be published.

Grant 111, 1927: $500 to W. H. Manwaring, Stanford University, for work on fundamental problems in anaphylaxis and immunity. The work has been completed, account has been made of the expenses, and the results have been published: Manwaring, W. H.; Marino, D. H., and Boone, T. H.: Effect of Histamine on the Parenteral Denaturization of Foreign Protein, *J. Immunol.* **14:** 341, 1927. Manwaring, W. H.; Marino, H. D., and Azevedo, J. L.: Parenteral Denaturization of Foreign Proteins: I. Effect on Sensitizing Power, *J. Immunol.* **15:** 109, 1928. Manwaring, W. H.: Parenteral Denaturization of Antigens: Its Bearing on the Current Immunologic Theories, THE JOURNAL, June 30, 1928, p. 2090. Manwaring, W. H.; Marino, H. D.; Azevedo, J. L., and Torbert, H. C.: Parenteral Denaturization of Foreign Proteins: II. Denaturization Rate in Immune Dogs, *J. Immunol.* **15:** 351, 1928. Manwaring, W. H.; Azevedo, J. L., and Torbert, H. C.: Passive Sensitization with Maignon's Fraction of Anaphylactic Blood, *Proc. Soc. Exper. Biol. & Med.* **25:** 431, 1928. Manwaring, W. H., and Azevedo, J. L.: Are Serum Antibodies Identical with Their Precursors in Living Tissues? A Comparison of Passive Sensitization by Cross-Circulation, Blood Transfusion and Serum Transfer: Preliminary Report, THE JOURNAL, Aug. 11, 1928, p. 386.

Grant 112, 1927: $500 to Harold Cummins, Tulane University, for study of fetal hand and foot. The work has been finished, account has been made of the expenses, and the results have been published: Cummins, Harold: The Topographic History of the Volar Pads (Walking Pads; Tastballen) in the Human Embryo, Contrib. to Embryology, Carnegie Inst. Washington **20:** 103, 1929.

Grant 116, 1927: $750 to L. H. Snyder, State College, Raleigh, N. C., for study of blood grouping in relation to clinical and legal medicine. The work under this grant has been finished, account has been rendered of the expenses, and the results have been published: Snyder, L. H.: The Blood Groups of the Jamaicans, Carnegie Inst. Washington **395:** 277, 1929: A Recessive Factor for Polydactylism in Man, *J. Heredity* **20:** 73, 1929; Blood Grouping in Relation to Clinical and Legal Medicine, Baltimore, Williams and Wilkins Company, 1929, p. 153.

Grants 99, 1926, and 119, 1927: Each $300 to R. H. Turner, Tulane University, for work on the microbiology in pellagra and sprue. The work under these grants has been finished, account has been made of the expenses, and the results have been published: Turner, R. H.: A Differential Plating Medium for Lipase-Producing Bacteria, *Proc. Soc. Exper. Biol. & Med.* **25:** 318, 1928; The Action of Bacteria on Fat, *J. Infect. Dis.* **44:** 126 and 134, 1929.

Grant 120, 1927: $500 to Helen Bourquin, University of Michigan, for experimental study of diabetes insipidus. The work under this grant has been completed, full account has been rendered of the expenses, and the results have been published: Bourquin, Helen: Studies in Diabetes Insipidus, *Am. J. Physiol.* **88:** 519, 1929.

Grant 121, 1927: $400 to A. H. Smith and T. S. Moïse, Yale University, for study of the relation of diet to renal physiology and pathology. The work has been finished, account of the expenses has been made, and the results have been published: Parsons, H. T.; Smith, A. H., and Moïse, T. S.: Response to High Protein Diets and Unilateral Nephrectomy During Reproduction in the Rat, *Proc. Soc. Exper. Biol. & Med.* **25:** 681, 1928. Further publications will be made. See grant 152, 1929.

Grant 124, 1927: $500 to A. T. Shohl, Yale University, for work on calcium-phosphorus metabolism in rats on faulty diets. The work has been finished, account has been made of the expenses, and the results have been published: Shohl, A. T.; Bennett, H. B., and Weed, K. L.: Rickets in Rats, *J. Biol. Chem.* **78:** 181, 1928; *Proc. Soc. Exper. Biol. & Med.* **25:** 551 and 669, 1928; *J. Biol. Chem.* **79:** 257, 1928. Shohl, A. T., and Bing, C.: Rickets in Rats, *Am. J. Physiol.* **86:** 633, 1928; *J. Biol. Chem.* **79:** 269, 1928; Neuromuscular Response of Rats to Galvanic Stimuli, *Am. J. Physiol.* **86:** 628, 1928.

Grant 125, 1927: $1,200 to Robert Hegner, Johns Hopkins University, for the study of relations of man to intestinal protozoa. This grant provided for continuation of the work under grant 101 (Charles A. Brant Fund), 1926. The work has been completed, account has been rendered of the expenses, and the following articles have been published: Rees, C. W.: Pathogenesis of Intestinal Amebiasis in Kittens, *Arch. Path.* **7:** 1 (Jan.) 1929; Infectivity and Pathogenicity of a Starch-Fed Strain of Endamoeba-Histolytica, *J. Parasitol.* **15:** 311, 1928.

Grant 126, 1927: $500 to T. L. Johnson, University of Arkansas, for study of zone phenomena in trypanosomiasis. The work has been completed, account has been made of the expenses ($119.69 refunded), and the results have been published: Johnson, T. L.: The Nonoccurrence of the Zone Phenomenon in the Curative Action of Drugs and Normal Human Serum in Trypanosoma Equinum Infection, *Am. J. Hyg.* **9:** 263, 1929.

Grant 128, 1928: $250 to Olof Larsell, University of Oregon School of Medicine, for work on the hematopoietic effect of nuclear extractives (continuation of grant 114, $500, 1927). The work under this grant has been completed, account has been made of the expenses, and the results have been published: Jones, N. W.; Phillips, B. I.; Larsell, Olof; and Nelson, H. T.: The Hemopoietic Effect of Nuclear Extractives in Human Anemias, *Ann. Int. Med.* **2:** 603, 1929.

Grant 129, 1928: $1,000 to Alexander Maximow, University of Chicago, for technical assistance in tissue cultures. The work under this grant was completed before the death of the grantee and account has been made of the expenses and the results published: Maximow, Alexander: Ueber die Entstehung von argyrophilen und kollagenen Fasern in Kulturen von

Bindegewebe und von Blutleukocyten, *Central bl. f. Allg. Path. u. path. Anat.* **43**: 145, 1928.

Grant 131, 1928: $2,000 to A. S. Warthin and G. R. LaRue, University of Michigan, for investigation of broad fish tapeworm infestation in man (continuation of grant 96, 1926). Full account has been rendered of the expenses. The work is being continued under grant 158, $2,000, 1929. The following articles have been published under grant 131: Vergeer, Teunis: Dissemination of the Broad Tapeworm by Wild Carnivora, *Canad. M. A. J.* **19**: 692, 1928; The Broad Tapeworm in America with Suggestions for Its Control, *J. Infect. Dis.* **44**: 1, 1929; The Dog a Reservoir of the Broad Tapeworm, THE JOURNAL, Feb. 23, 1929, p. 607.

Grant 134, 1928: $600 to E. B. Hart, University of Wisconsin, for work on the distribution of an inorganic factor supplementing iron in the building up of hemoglobin. The work under this grant has been completed, account has been made of the expenses, and the results have been published: Lindow, C. W.; Elvehjem, C. A., and Peterson, W. H.: The Copper Content of Plant and Animal Foods, *J. Biol. Chem.* **82**: 465, 1929. Elvehjem, C. A., and Hart, E. B., with the cooperation of H. E. Howe: The Copper Content of Feedingstuffs, *J. Biol Chem.* **82**: 473, 1929.

Grant 136, 1928: $500 to K. E. Birkhaug, University of Rochester School of Medicine and Dentistry, for study of acute rheumatic fever. The work has been completed, an account of the expenses made, and the results have been published: Birkhaug, K. E.: Rheumatic Fever, *J. Infect. Dis.* **44**: 363, 1929.

Grant 137, 1928: $500 to N. A. Michels, School of Medicine, Creighton University, for study of the round cell infiltration in syphilitic lesions. The work has been completed, full financial account has been rendered, and the results published: Michels, N. A.: Round Cell Infiltrations in Poliomyelitis and Encephalitis, *Nebraska M. J.* **14**: 149, 1929. Michels, N. A., and Globus, J. H.: Round Cell Infiltrations in Syphilis of the Nervous System, *Arch. Path.* **8**: 371 (Sept.) 1929.

Financial Statement for 1929

Balance to credit of committee, Jan. 1, 1929	$ 1,972,90	
Appropriation for 1929	13,200.00	
Refund, grant 93	283.00	
Refund, grant 139	240.00	
		$15,695.90
Grants and Expenses Paid in 1929		
Grant 150, Benjamin Friedman	$ 200.00	
Grant 151, B. Z. Rappaport	300.00	
Grant 152, A. H. Smith and T. S. Moise	400.00	
Grant 153, G. A. Talbert	300.00	
Grant 154, Robert Hegner	1,500.00	
Grant 155, F. D. Weidman	100.00	
Grant 156, C. I. Reed	300.00	
Grant 157, C. H. Frazier	1,000.00	
Grant 158, G. R. LaRue and A. S. Warthin	2,000.00	
Grant 159, R. L. Moodie	300.00	
Grant 160, Helen Bourquin	500.00	
Grant 161, E. B. Hart	600.00	
Grant 162, J. P. Simonds	100.00	
Grant 163, George Herrmann	750.00	
Grant 164, J. H. Black	100.00	
Grant 165, L. R. Whitaker	600.00	
Grant 166, H. F. Thurston	500.00	
Grant 167, Hans Jensen	500.00	
Grant 168, V. C. Jacobsen	500.00	
Grant 169, H. J. Howard	600.00	
Grant 170, G. E. Burget	500.00	
Grant 171, National Research Council	2,500.00	
Clerical Expenses	600.00	
Traveling expenses to attend meeting of committee	388.25	
Sundry supplies	26.89	
		$15,165.14
Balance on hand	$ 530.76	

Grant 139, 1928: $240 to A. F. Coca, Roosevelt Hospital, New York, for study of the susceptibility of human beings to horse serum. Owing to circumstances, the work under this grant was suspended and the full amount of the grant refunded.

Grant 141, 1928: $1,000 to L. R. Whitaker, Boston University School of Medicine, for research on the physiology and pathology of the gallbladder. The work under this grant is continued under grant 165, 1929. Full acount has been made of the expenses and the following article published: Briggs, J. E., and Whitaker, L. R.: An Electrosurgical Method for Aseptic Gastro-Enterostomy, *New England J. Med.* **201**: 6, 1929.

Grant 142, 1928: $76 for J. H. St. John, Army Medical School, Washington, D. C., for expenses of work on the gametocytes in malaria. The work has been completed, full account has been made of the expenses, and the results have been published: St. John, J. H.: The Gametocytes of Tertian Malaria and Their Early Appearance in Malaria Transmitted by Anopheles Punctipennis, *Am. J. Trop. Med.* **8**: 305, 1928.

2. WORK UNDER GRANTS STILL PENDING

Grant 94, 1926: $800 to R. L. Benson, University of Oregon School of Medicine, for experimental study of arteriosclerosis. The work has been completed, full account has been made of the expenses, but the results have not been published.

Grant 103, 1926: $855 to R. O. Loebel, Cornell University Medical College, for study of the gaseous exchange of normal and malignant cells. The work has been completed, full account has been made of the expenses, and the results have been published preliminarily: Richardson, H. B.; Loebel, R. O., and Shorr, E.: Respiratory Metabolism of Excised Normal and Diabetic Tissue, *Proc. Soc. Exper. Biol. & Med.* **25**: 658, 1928. Loebel, R. O., and Shorr, E.: Effect of Respiratory Depressants on the Respiratory Quotient of Excised Tissue, *Proc. Soc. Exper. Biol. & Med.* **26**: 722, 1929.

Grant 105, 1927: $1,800 to H. B. Ward, University of Illinois, for study of life history of broad fish tapeworm endemic in man in northern Minnesota. The work under this grant is still in progress. The work has disclosed conditions of such significance that an extensive study of the distribution and frequency of the parasite in the region in question has been undertaken by the State Board of Health of Minnesota. The following articles have been published: Essex, H. E.: On the Life History of Bothriocephalus Cuspidatis Cooper, 1927: A Tapeworm of the Wall-Eyed Pike, *Tr. Am. Microscop. Soc.* **47**: 348 (July) 1928. Hjortland, A. L.: On the Structure and Life History of an Adult Triaenophorus robustus, *J. Parasitol.* **15**: 38, 1928. Ward, H. B.: Studies on the Broad Fish Tapeworm in Minnesota, THE JOURNAL, Feb. 2, 1929, p. 389.

Grant 106, 1927: $500 to A. M. Yudkin, Yale University, for work on experimental cataract and related changes. Work is in progress and the following articles have been published: Yudkin, A. M.: The Formation of the Aqueous Humor, *Tr. Am. Acad. Ophth. & Oto-Laryng.*, 1928; A Critical and Experimental Study, *Tr. Am. Ophth. Soc.* **26**: 319, 1928.

Grant 107, 1927: $500 to H. L. Huber, Chicago, for work on the chemical and immunologic properites of the pollens of hay-fever and allied conditions. Active work is still in progress.

Grant 108, 1927: $750 to C. V. Green, Michigan State College, for study of inheritance of color blindness and hemophilia with especial reference to linkage. The work is completed, account has been rendered of the expenses, and the results are in the course of publication in an article by C. B. Davenport of the Department of Genetics, Carnegie Institution of Washington.

Grant 109, 1927: $600 to C. B. Semerak, Rush Medical College, for study of the pathologic changes in carbon monoxide poisoning. The work has been completed and the results are in course of publication.

Grant 113, 1927; $500 to C. W. Apfelbach, Presbyterian Hospital, Chicago, for work on the renal function after glomerular infarction. Work is in progress. The following articles have been published: Miller, E. M., and Apfelbach, C. W.: Experimental Infarction of the Glomeruli in Dogs, *Arch. Path.* **4**: 193 (Aug.) 1927. Jensen, C. R., and Apfelbach, C. W.: Method of Making Repeated Determinations of the Intra-Arterial Systolic Blood Pressure in Dogs, *Arch. Path.* **6**: 99 (July) 1928.

Grant 115, 1927: $100 to J. E. Else, University of Oregon School of Medicine, for experimental work on the surgery of the esophagus. Work is in progress. Else, J. E.: Carcinoma of the Esophagus, *Northwest Med.* **28**: 25, 1929.

Grant 117, 1927: $250 to W. H. Hunter, University of Oregon School of Medicine, for study of experimental chronic nephritis. Work in progress.

Grant 118, 1927: $1,000 to Edward Reynolds and E. A. Hooton, Harvard University, for study of the mechanism of erect posture. Work is still in progress.

Grant 123, 1927: $500 to S. R. Gifford, University of Nebraska School of Medicine, for study of the chemical properties of the normal and cataractous lens. The work is still in progress.

Grant 127, 1928: $300 to R. L. Moodie, Santa Monica, Calif., toward a study of the lesions associated with deafness among pre-Columbian Peruvians. The results of the work under this grant and grant 159, 1929, are in course of publication.

Grant 132, 1928: $200 to F. T. Rogers, C. L. Martin, and J. S. Sweeney, Baylor University, for study of the effect of the roentgen ray on the suprarenals. The work is completed and the results are in course of publication.

Grant 133, 1928: $715 to F. L. Dunn, University of Nebraska, for spectrophotometric analysis of biologic fluids. The work under this grant is in progress.

Grant 135, 1928: $300 to G. A. Talbert, University of North Dakota, for study of constituents common to the sweat, the blood and the urine (continuation of grants 104 and 122, 1927). The work under this grant is being continued under grant 153, 1929.

Grant 140, 1928: $400 to Bernhard Steinberg, Toledo Hospital, for study of recovery from experimental peritonitis. Work is in active progress. The following articles have been published so far: Steinberg, Bernhard; and Goldblatt, Harry: Production of Active Immunity Against the Fatal Outcome of Experimental Fecal Peritonitis, *Arch. Int. Med.* **42**: 415 (Sept.) 1928. Steinberg, Bernhard; and Snyder, D. A.: Immune Cellular Reactions in Experimental Acute Peritonitis, *Arch. Path.* **8**: 419 (Sept.) 1929.

Grant 144, 1928: $800 to I. S. Falk, University of Chicago, for research on the purification of diphtheria toxin and antitoxin.

Grant 145, 1928: $600 to Kamil Schulhof, John McCormick Institute for Infectious Diseases, Chicago, for study of the physiologic action of thyroxin as compared with thyroglobulin. The work has been completed, full account has been made of the expenses, and the results are in progress of publication.

Grants 143 and 146, 1928: $568.61 to W. R. Tweedy, Loyola University School of Medicine, Chicago, for work on purifying the parathyroid hormone. Work in progress. The following article has been published: Tweedy, W. R., and Chandler, S. B.: Studies on the Blood Plasma Calcium of Normal and Parathyroidectomized Albino Rats, *Am. J. Physiol.* **88**: 754, 1929.

Grant 147, 1928: $1,000 to A. V. Hardy, State Hygienic Laboratories, Iowa City, for work on the bacteriology of undulant fever. Active work is in progress and one article has been published on the results obtained: Hardy, A. V.; Hudson, M. G., and Jordan, C. F.: The Skin as a Portal of Entry in Brucella Melitensis Infections, *J. Infect. Dis.* **45**: 271, 1929.

Grant 148, 1928: $250 to J. J. Morton, University of Rochester School of Medicine and Dentistry, for work on intoxication in intestinal obstruc-

tion and strangulation (Van Zwalenburg Fund). The work is in progress and one article has been published: Morton, J. J.: The Differences Between High and Low Intestinal Obstruction in the Dog: An Anatomic and Physiologic Explanation, *Arch. Surg.* **18**: 1119 (April) 1929.

Grant 149, 1928: $250 to G. E. Burget, University of Oregon School of Medicine, for study of the hydraulic pressure in closed intestinal loops (Van Zwalenburg Fund). The work under this grant (which is being continued under grant 170, 1929) is yielding results of interest.

MEETING OF THE COMMITTEE

A meeting of the committee was held in Chicago, May 5, 1929, at which all members were present.

RECCOMMENDATIONS

Several requests for aid are now under consideration. The committee ventures to recommend that, for 1930, $12,000 be appropriated for grants to aid medical research and $1,200 for other expenses of the committee.

Respectfully submitted.

LUDVIG HEKTOEN, Chicago, Chairman.
Term expires, 1931.
C. C. BASS, New Orleans.
Term expires, 1932.
JOHN J. MORTON, Rochester, N. Y.
Term expires, 1933.
N. W. JONES, Portland, Ore.
Term expires, 1934.
MARTIN H. FISCHER, Cincinnati.
Term expires, 1935.

COMMITTEE ON SCIENTIFIC RESEARCH OF THE AMERICAN MEDICAL ASSOCIATION.

ADDENDA TO REPORT OF THE BOARD OF TRUSTEES

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ended Dec. 31, 1929

Reserve Invested as at Dec. 31, 1928 (Cost)		$834,113.50
Balance for Investment Dec. 31, 1928	$54,418.22	
Interest on Investments	37,326.50	
Interest on Bank Balance	661.70	
	$92,406.42	
Less Real Estate Investment	50,000.00	42,406.42
Invested and Uninvested Reserve as at Dec. 31, 1929		$876,519.92

DAVIS MEMORIAL FUND

Balance Fund Dec. 31, 1928	$ 5,735.29
1929 Interest on Bank Balance	173.33
Total Fund as at Dec. 31, 1929, on Deposit	$ 5,908.62

AUSTIN A. HAYDEN, Treasurer.

AUDITOR'S REPORT

January 14, 1930.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1929, and have prepared therefrom, and append hereto, the statements undermentioned:

Exhibit "A"—Balance Sheet, as at December 31, 1929.
Exhibit "B"—Income Account, for the year ended December 31, 1929.

Schedules, for the year ended December 31, 1929:

Schedule "1"—Journal Operating Expenses.
Schedule "2"—Association and Miscellaneous Expenses.

We certify that the Balance Sheet and Income Account correctly present, in our opinion, the financial position of the Association as at December 31, 1929, and the results of its operations for the year ended on that date, subject to the following qualifications:

(1) The Inventories of Materials, Supplies and Work in Progress, $80,319.25, are stated in accordance with affidavits sworn to by responsible officials of the Association and have not been verified by us in any way.

(2) In accordance with the established practice of the Association, no provision has been made for (a) accrued interest on bonds, (b) memberships and subscriptions due and unpaid and (c) accrued salaries and wages.

(3) Depreciation has been computed on diminishing values at rates which normally apply to cost of Property and Equipment.

We have pleasure in reporting that the books are maintained in excellent condition and that every facility was afforded us for the proper conduct of the audit.

Yours truly,

PEAT, MARWICK, MITCHELL & Co.

EXHIBIT "A"

BALANCE SHEET AS AT DECEMBER 31, 1929

ASSETS:			
Property and Equipment (at cost, less depreciation):			
Real Estate and Buildings			$ 875,428.37
Machinery			113,111.93
Type and Metal			11,920.28
Furniture and Equipment			56,681.71
Chemical Laboratory			3,584.67
Library			466.01
Total Property and Equipment			$1,061,193.47
Investments (at cost):			
U. S. Government Securities		$ 288,332.75	
Railroad, Municipal and other bonds		545,780.75	834,113.50
Cash held by Treasurer for Investment			42,406.42
Cash held in Bank and on Hand—General Account			175,708.00
Temporary Investments—Certificates of Deposit			300,000.00
Notes Receivable			108.75
Accounts Receivable:			
Advertising		$ 100,138.94	
Co-operative Medical Advertising Bureau		13,093.50	
Reprints		7,630.60	
Directory—11th Edition		10,526.00	
Miscellaneous		14,583.12	145,972.16
Inventories of Materials, Supplies and Work in Progress			80,319.25
Expenditures on Publications in Progress			45,301.81
Prepaid Expenses—Insurance, etc.			3,381.50
Total			$2,688,504.86
LIABILITIES:			
Accounts Payable:			
Co-operative Medical Advertising Bureau			$ 11,379.59
Miscellaneous			17,495.92
			$ 28,875.51
Subscriptions paid in Advance			118,138.75
Advance Payments on Publications			148,846.61
Net Worth:			
Association Reserve Fund		250,000.00	
Capital Account:			
Amount thereof as at December 31, 1928	$1,934,989.13		
Net Income for the year ended December 31, 1929	207,654.86	2,142,643.99	
Net Worth as at December 31, 1929			2,392,643.99
Total			$2,688,504.86

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1929

JOURNAL:			
Gross Earnings:			
Fellowship Dues and Subscriptions			$ 476,851.63
Advertising			953,123.45
Jobbing			90,521.05
Reprints			2,816.53
Books			14,556.56
Insignia			4,994.95
Miscellaneous Sales			14,806.29
Interest			7,727.15
Gross Earnings from Journal			$1,565,397.61
Operating Expenses—Schedule "1"			989,057.77
Net Earnings from Journal			$ 576,339.84
Miscellaneous Income:			
Rents		$ 1,200.00	
Sundry Publications		20,218.36	21,418.36
Association Income:			
Income from Investments		$ 37,988.20	
New Property		4,000.00	41,988.20
Gross Income			$ 639,746.40
Association Expenses—Schedule "2"		$286,671.69	
Miscellaneous Expenses—Schedule "2"		145,419.85	432,091.54
Net Income			$ 207,654.86

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1929

Wages and Salaries			$447,018.31
Editorials, News and Reporting			12,236.55
Paper—Journal Stock			277,171.31
Paper—Miscellaneous			4,471.58
Electrotypes and Engravings			21,655.19
Binding			666.13
Ink			5,290.01
Postage—First Class			28,102.91
Postage—Second Class			62,770.30
Journal Commissions			10,776.94
Collection Commissions			1,476.56
Discounts			31,052.07
Express and Cartage			4,851.88
Exchange			3,566.91
Office Supplies			2,759.83
Telephone and Telegraph			2,541.21
Office Jobbing			8,833.66
Power and Light			7,183.53
Factory Supplies			10,184.10
Repairs and Renewals—Machinery			6,005.04
Loss on Bad Debts			2,538.77
Miscellaneous Operating Expenses			16,672.68
Total Journal Operating Expenses before provision for depreciation			$967,825.47
Depreciation on Equipment:			
Machinery	* 10%	$12,567.99	
Furniture and Equipment	10%	4,983.17	
Factory Equipment	10%	1,314.80	
Type	10%	491.08	
Metal	20%	1,875.26	21,232.30
Total Journal Operating Expenses			$989,057.77

* All depreciation is computed on diminishing balance.

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1929

Association Expenses:	
Association	$ 93,394.09
Health and Public Instruction	25,844.82
Pharmacy and Chemistry	21,674.04
Chemical Laboratory	22,671.59
Medical Education and Hospital	52,974.24
Organization and Field Secretary	4,225.79
Therapeutic Research	4,369.41
Legal Medicine and Legislation	26,787.93
Bureau of Investigation	20,466.26
Physical Therapy	9,236.59
Central Scientific Exhibit	1,230.05
New Property	776.91
Laboratory Depreciation—10%	398.30
Miscellaneous Expense	2,621.67
Total Association Expenses	$286,671.69
Miscellaneous Expenses:	
Insurance and Taxes	$ 17,336.64
Legal and Investigation	6,869.25
Building Expenses	35,415.54
Building Depreciation (2% on diminishing balances)	11,245.74
Fuel	5,694.93
Sundry Publications	68,857.75
Total Miscellaneous Expenses	$145,419.85

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

The amount of work that the Judicial Council has been called on to do since the last annual session has been unusually large and many of the questions with which it has had to deal have been of a most perplexing nature. The character of many of them indicates that the conditions of the times are tending to produce significant changes in the relations of medicine. Inquiries submitted to the Council involving the relations of one physician to another and the relations of the individual physician or of the organized profession to the public are constantly increasing in number and are becoming more complex in character. The development of industrial medicine, the activities of corporations in medical fields, the expansion of public health programs, especially those of unofficial agencies, the organization of so-called "hospital associations" and "cooperative diagnostic laboratories," the creation of funds and foundations concerned in some manner with medical practice or public health, the workings of compensation laws and many other factors have given rise to many new questions and have produced many perplexing problems of which final solution is not easily possible. To all of these coming to its attention the Council is giving earnest consideration and is attempting to be helpful in devising plans of action that will safeguard the integrity of the medical profession and contribute to the public welfare.

COOPERATIVE DIAGNOSTIC LABORATORIES

In one or more instances, concerns known as "cooperative diagnostic laboratories" have been organized in which practicing physicians are participating as "members." Information before the Judicial Council indicates that organization is effected in such a manner that control will lie in the hands of the promoters and directors of these schemes and that practicing physicians identified with them must pay for "membership." These physicians are then expected to refer work to the laboratories operated by the concern. As a consideration for such reference, the physician members receive from the laboratories compensation varying in amount with the amount of work referred. The Judicial Council is of the opinion that schemes of this kind are unethical and directly opposed to the interests of scientific medicine and of the public. This opinion has been transmitted to the state medical association and to the county medical society directly concerned, but without results.

ORIGINAL JURISDICTION AND RESPONSIBILITY

The Judicial Council is constantly being asked to deal with matters over which it has no jurisdiction until they have come before the Council on appeal from decisions of the proper official bodies of state medical associations. Original jurisdiction over the acts and professional relations of members lies with the component medical societies and it is the duty of these societies to institute and to carry out any corrective measures that may be indicated. The constituent state association from which the component county society receives its charter has original jurisdiction over the affairs of medical organization in its own state, and its powers and duties are clearly fixed in its constitution and by-laws, to which its own component county societies must subscribe. The Judicial Council cannot institute any action in a county or state having to do with the relations of one member with another, or of a member or groups of members with a county society or with a state association. If untoward conditions arise in a county it is the duty of the component society of that county to deal with them and this duty cannot be delegated to nor assumed by the Judicial Council.

The Judicial Council does have jurisdiction over matters pertaining to Fellowship in the American Medical Association and has exercised such jurisdiction in many instances. The Judicial Council can and frequently does submit to constituent state medical associations information received by it concerning alleged acts of individual members or groups of members. The Council can and does offer to constituent state medical associations its studied opinion with respect to conditions that arise in a particular state or concerning organized movements that may affect the profession as a whole.

It is highly important and necessary to the efficient working of our splendid scheme of organization that every unit shall fully assume the jurisdiction that belongs to it and shall deal promptly and definitely, but with careful deliberation, with every situation that threatens to bring reproach on the profession or that offers opportunity for extending the worthy influence of our organization and for promoting the science and art of medicine.

PROPER PREPARATION OF CHARGES AND APPEALS

Our organizational law clearly prescribes methods to be used in dealing with matters of discipline. The law is written with proper regard for the rights and privileges of the individual as well as for those of the profession and the public. It is required that a hearing shall be given to any member against whom charges have been laid, and fair and definite methods of procedure are clearly set out. It is nevertheless true that, in certain instances that have come under the official notice of the Judicial Council, charges made in cases that have come to trial have been so indefinite as to preclude the possibility of arriving at conclusions that could be legally justified. In some instances, specific rules of procedure laid down in constitutions and by-laws

have been entirely ignored or loosely followed. More than once, preparation for appeals has been poorly made by both parties at interest, and official records have been imperfect to a degree that has made it necessary to arrive at conclusions and to announce decisions that might have been of a very different nature had due care been exercised in preferring specific charges, in the admission or rejection of evidence, and in following the authorized rules of procedure.

It is, at best, unfortunate that official action contemplating the application of discipline should have to be taken, but it is essential that the honor of the profession be zealously guarded and that the integrity of our organization be fully preserved. It is just as important that no injustice be done to any individual. That these ends be served, it is of the utmost importance that any society that finds it necessary to proceed against any member or any group of members shall see to it that charges preferred are specific, that rules of evidence are duly observed, and that legal methods of procedure are carefully followed. Appeals must be made in the prescribed form, and the records submitted to appellate bodies must be accurate and complete.

Proposed Amendment to By-Laws

In some states, the laws governing medical licensure permit persons who are not doctors of medicine to be licensed as physicians. Some persons so licensed have been admitted to membership in county societies. The Judicial Council respectfully proposes that section 2 of chapter XI of the By-Laws of the American Medical Association be amended so as to provide that no person who is not a doctor of medicine shall be permitted to become a Fellow of the Association.

Corporation Practice

At the Portland session, in a resolution introduced by Dr. William Allen Pusey of Illinois and adopted by the House of Delegates, the Judicial Council was asked to submit to the House at this session "a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations, by industrial organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto." The scope of this resolution is so broad and the magnitude of the task assigned so great that the Judicial Council has found it impossible to comply with the request that a comprehensive report be submitted at this session. The members of the Council have attempted to study conditions affecting the practice of medicine, and the Council as an official body has sought to gather information and to secure expressions of opinion from qualified persons. It is perfectly obvious that to carry out the intent of the resolution it will be necessary to compile and digest a mass of information of such size that the accomplishment of the task is far beyond the capacity of the facilities of the Council.

Some conditions requiring study have been so lately created and are undergoing such rapid changes that quick appraisals cannot be made. Others now have purely local bearing and have no present national significance but may come to be of important interest to the entire profession. With respect to some of the matters covered by the Pusey resolution there has been no crystallization of opinion and it is doubtful that well considered judgment can be formulated. The Council will use its best endeavor to arrive at conclusions to be submitted to the House of Delegates at a future session that may serve as a basis of discussion that may result in the adoption of definite policies as those of the Association. In the meantime, it is desirable that component county medical societies and constituent state medical associations study closely conditions existing in their respective jurisdictions and that they be guided in offering or in withholding approval and cooperation in movements affecting medicine by conclusions based on such study. These societies and associations are respectfully requested to provide the Judicial Council with all available information that may be used to help the Council in carrying out, as far as it can, the expressed wishes of the House of Delegates.

With regard to the practice of medicine by corporations, it is the opinion of the Judicial Council, based on present evidence, that such practice is detrimental to the best interests of scientific medicine and of the people themselves. When medical service is made impersonal, when the humanities of medicine are removed, when the coldness and automaticity of the machine are substituted for the humane interest inherent in individual service and the professional and scientific independence of the individual physician, the greatest incentive to scientific improvement will be destroyed and the public will be poorly served.

Appeals Pending

During the year the Judicial Council has had before it two important appeals in which decisions had not been arrived at when this report was being prepared.

Respectfully submitted.

George Edward Follansbee, Chairman.
J. N. Hall.
Donald Macrae, Jr.
F. W. Cregor.
James B. Herrick.
Olin West, Secretary, ex officio.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

I. Work of the Year

The Council's work along the usual lines has progressed, as shown by the data published in the special numbers of The Journal. Attention is called to the leading editorial on page 547 of the educational number, published Aug. 17, 1929, and to the charts appearing on page 530 of the same issue. The significant fact is the further differentiation of medical education as taught in well equipped medical schools from that found in the semiosteopathic and other miserably equipped institutions presuming to train students in the art of healing. This has resulted from the action of the Council in no longer recognizing the latter as medical schools.

New Medical Schools

Two new medical schools are in process of organization. One of these, the University of Southern California School of Medicine, was opened at Los Angeles in the fall of 1928 and at that time made provision for and accepted students enrolled in the first year class. During the present session provision has been made for students of the first and second year classes. Its provision for the clinical years, however, from the standpoint of finances, buildings, hospitals and faculty, is apparently incomplete so that its classification by the Council has been postponed. The other is the School of Medicine of the Duke University at Durham, N. C. At an expenditure of approximately $4,000,000 buildings for the medical school and hospital have been completed, including laboratories providing for 300 medical students and a hospital having 200 beds which will provide for patients, both private and charity, white and colored, who will come from Durham or from other parts of the state. Its medical library contains over 20,000 volumes and approximately 300 current American and foreign medical journals have been subscribed for. Because the essential finances have already been liberally provided and special care has been used in the selection of its dean and faculty, the Council has not hesitated to grant the institution a class A rating. This school will open for first and third year students Oct. 1, 1930.

With regard to hospitals, attention is called to the statistics appearing in The Journal dated March 29, 1930, and to the papers by individual authors appearing in that issue. In the hospital field the most significant and noteworthy points are:

(*a*) The more complete and valuable information made available in regard to hospitals.

(*b*) The clearer outlook over all hospitals whereby the Council's work can be directed toward those in greater need of investigation.

(*c*) A gradual coordination between hospitals furnishing training for interns and those providing opportunities for residencies in the several special fields.

In medical licensure, the statistics regarding examinations held by state licensing boards during 1929 are published in THE JOURNAL of April 26, 1930, on pages 1307 to 1322, inclusive. Attention is called to the progress in basic science boards shown in the statistics on page 1318. Progress in connection with boards of medical examiners is also of particular interest. The facts set forth in table 5, regarding the registration of graduates of medical schools and other practitioners, should not escape attention.

The following are the most significant facts in medical licensure during last year:

(*a*) The avalanche of foreign physicians coming to the United States since the close of the World War is subsiding.

(*b*) Undergraduate medical students are now being licensed in only rare or accidental instances, but are being replaced by graduates of nondescript colleges.

(*c*) The licensing of osteopaths as physicians, however, is increasing both by examinination and by reciprocity.

(*d*) More encouraging is the fact that the number of those obtaining certificates of the National Board of Medical Examiners is increasing and more licensing boards are accepting them without further examination.

(*e*) The results of basic science examinations are more favorable than heretofore. They are helping to restrict not only the nonmedical practitioners but also a smaller percentage of the graduates of medical schools who do not have the desired training in the basic sciences.

INVESTIGATIONS IN PROCESS

Following the suggestions made by the House of Delegates at the Portland session, the Council has made a detailed investigation of small hospitals. The questionnaire sent to all hospitals having fifty beds or less has brought replies furnishing information particularly with regard to the training and character of hospital staff members; the provision made for clinical laboratory work whether inside or outside the hospital and by whom; provision for consultation with regard to dangerline cases; the hospital's rules regarding its use by doctors of the community and especially by nonmedical practitioners, and information relating to the need of increased hospital facilities in the community. Efforts are being made to verify these statistics by correspondence with others having knowledge concerning the hospitals.

It is believed that this investigation when completed will be of great value.

LABORATORIES OF RADIOLOGY

An investigation of this field is in process which will furnish information on which a list of radiologic laboratories considered worthy of approval can be formulated.

II. PROGRESS IN TWENTY-FIVE YEARS

Since it was created in 1904, the duties of the Council on Medical Education and Hospitals have been increased so much in extent and in complexity that some rearrangement of its methods of procedure is being contemplated. At this time, therefore, the Council deems it important to present the following concise statement regarding the progress made in the last quarter century relating to the methods whereby the work has been accomplished.

When the Council was created in 1904, rather chaotic conditions in medical education were existing. There were then 162 medical schools in the United States, while in all other countries together there were only 154. From the standpoint of premedical education, however, less than a dozen of the medical schools in this country could be compared favorably with the average of those abroad. The main reason for this difference was that the high schools in the United States were about two grades lower than in European countries, so that graduates of secondary schools abroad, on migrating to the United States, were eligible to obtain two years of advanced standing in American colleges of arts and sciences.

To place premedical education in the United States on a par with that of Europe, therefore, the requirements for admission to medical schools in this country were increased to two years of college work in addition to a high school education.

OTHER DEFICIENCIES IN MEDICAL SCHOOLS

As late as in 1900, a large proportion of the medical schools in the United States were private corporations, conducted more or less for profit, and less than a score were controlled both educationally and financially by well recognized colleges or universities. Now all but ten are parts of and controlled by universities.

In 1904, also, less than a score of medical schools were employing teachers to devote their entire time to teaching and research in their laboratory departments. At the other extreme, in each of about a score of medical schools one physician constituted the entire faculty, and the curriculum was ungraded, the class schedules being arranged alike for two, three or even all four classes.

As to clinical teaching, in 1904 the majority of medical schools were seriously unequipped with either outpatient or hospital facilities, so that students could not secure training even in old time "amphitheater" clinics. The present methods of section clinics and clinical clerkships whereby students have the opportunity actually to examine and care for patients under the supervision of their teachers were scarce or unknown twenty-five years ago. Indeed, the deplorable conditions found during the Council's first tour of inspection during 1906-1907 are now almost unbelievable.

HOSPITALS PLACED UNDER THE COUNCIL'S SUPERVISION

From the beginning of its work in 1904, the Council on Medical Education was interested in hospitals in their wide relationship to medical education and intern training. In 1920, however, the Council's duties were definitely extended by the House of Delegates to include all matters relating to hospitals, and the words "and Hospitals" were added to the Council's name. Its duties are defined in the By-Laws of the American Medical Association in chapter IX, section 2, as follows:

> The functions of the Council on Medical Education and Hospitals shall be: 1. To investigate conditions of medical education, hospitals and associated subjects and to suggest means and methods by which the same may be improved. 2. To endeavor to further the realization of such suggestions as may be approved by the House of Delegates.

As no regulations governing either medical education or medical practice have ever been formulated by the United States government, the American Medical Association was justified in assuming responsibility for the establishing of such standards as were necessary for the proper regulation of medical affairs.

SOURCE AND EXTENT OF THE COUNCIL'S AUTHORITY

As a standing committee of the American Medical Association, the Council on Medical Education and Hospitals was made responsible for such duties as the Association had assigned to it. It was within the authorized duties of the Council, therefore, to formulate certain schedules of principles or essentials regarding each of the several fields assigned to it and on the basis of such principles establish certain classifications or approved lists as were deemed necessary, subject to the approval of the House of Delegates.

THE COUNCIL'S POLICIES AND PROCEDURES

The Council early recognized that it did not have "legal authority" over any medical school, hospital or other institution but has always acknowledged that the officers of each institution have the unquestioned right to conduct their affairs as they prefer. If each institution desires to have the Council's endorsement, however—and that is what the Council's approval actually means—it naturally should be willing to conform to such principles or essentials as the Council deems necessary for such endorsement. This position is clearly stated in the Council's schedule of "essentials" or "principles," which applies to each of the several groups of institutions. Compliance with these principles makes the institution eligible for inclusion on the Council's "approved" list.

No standards or "essentials" with regard to institutions in any particular field have been adopted by the Council until after the advice of experts in that field was obtained or until the schedule had been given discussion at an open conference where the physicians interested had an opportunity to be heard.

From the beginning, the Council has sought and received a hearty cooperation from the deans of medical schools and the secretaries of state licensing boards. A splendid cooperation has been received also from the hospital superintendents. Of clinical and radiologic laboratories the Council's supervision was the result of direct appeal from the national organizations, respectively, of pathologists and of radiologists.

PRESENT EXTENT OF THE COUNCIL'S WORK

During its last twenty-five years, the Council's field of service has been gradually extended until it now has to do with the four following departments of medical practice:

1. Medical education, including premedical, undergraduate and graduate medical education. It also includes medical licensure, as the standards of licensure depend considerably on the standards put into effect by the medical schools.

2. Hospitals, including (*a*) hospitals of from seven beds up which are considered worthy of being named in the "Hospital Register"; (*b*) those sufficiently developed educationally to deserve approval for the training of interns, and (*c*) those worthy of approval for higher internships, or residencies, in the specialties.

3. Clinical laboratories. The Council's work in this field was authorized by the House of Delegates in 1923 following simultaneous but independent petitions from (*a*) the American Chemical Society and (*b*) the Section on Pathology and Physiology of the American Medical Association, requesting that, after due investigation, a list of clinical laboratories deemed worthy of approval be established.

4. Laboratories of radiology. In 1928, the Section on Radiology of the Illinois State Medical Society petitioned the House of Delegates to have the Council's duty of supervising clinical laboratories extended to include also the laboratories of radiology. In both these fields, this supervision included not only private laboratories but also the departments of hospitals.

AUTHORIZATION AND JUSTIFICATION OF STANDARDS

In the formulation of its "essentials," or "principles," the Council has always sought and obtained the advice and cooperation of the individual institutions and of the national association having to do with the particular field concerned, further outlined as follows:

1. *Medical Education and Licensure.*—From the beginning of its work the Council's annual conferences, by invitation, have been attended by deans of medical schools, presidents of universities, secretaries and members of state boards of medical examiners, invited guests and others interested. In this field, also, an advisory committee on medical education was established in each state, the members of which were nominated or appointed by the local state medical society.

Results of the Work: In medical education and in licensure, the Council has always received a ready and remarkable cooperation from the deans of medical schools and the secretaries of state licensing boards, which has made possible the publication of reliable and therefore valuable statistics each year in the special numbers of THE JOURNAL on medical education and on state board statistics. This cooperation has resulted in other valuable developments at the headquarters of the Association:

(*a*) A biographic index of all physicians in the United States, including for each physician the facts in regard to his graduation from a medical school and his being licensed in some state, facts based on official information furnished by the deans of medical schools and by the secretaries of state licensing boards.

(*b*) The Medical Directory. The valuable information contained in the biographic index is now made easily available by its publication in the American Medical Directory.

(*c*) The Medical Students' Register. The cordial cooperation received from the deans of medical schools also made possible the establishing, in 1910, of the Students' Register, whereby carefully verified and accurate information in regard to each physician is now recorded from the time he matriculates in the medical school.

2. *Graduate Medical Education.*—Beginning in 1915, several inspections of graduate and postgraduate medical schools have been made and, in 1920, a committee of nine members was appointed for each of the fifteen special fields, including both clinical and laboratory specialties. Altogether, therefore, these committees were made up of 135 medical educators, selected because of their qualifications to speak from knowledge regarding their respective fields. The reports were read at the Council's annual conference in 1921 and published in the proceedings. This report provided a well considered basis for the "Principles Regarding Graduate Medical Education," adopted in 1923, and suggested the rotating service as a possible requirement in the correlation of undergraduate and graduate medical education. This was so considered by the Council in preparing its "Essentials of a Hospital Approved for Internships," as contrasted with residencies, which, naturally, were limited to the respective specialties.

Approved Graduate Medical Schools: In 1923, also, the Council's first list of approved graduate medical schools was completed, whereby twenty-four institutions were approved after careful inspection. Whereas formerly a physician had to choose blindly from courses offered by a score or more of unstandardized postgraduate and policlinic medical schools, he now has a list of twenty-four institutions where courses of known value in any chosen specialty can be obtained.

3. *Hospitals.*—From the beginning of the Council's work it has been increasingly concerned in the development of hospital standards. With the improvement of medical education since 1900, hospitals have rapidly increased both in number and in capacity, and in 1920, when the supervision of hospitals was added to the Council's duties, the duties of the state committees on medical education were enlarged to include hospitals. The formulation of standards in regard to intern training, also, was necessarily gradual because the development of hospitals had not been sufficient to justify them.

LISTS OF APPROVED HOSPITALS

Through the collection and publication of statistics obtained through the courtesy of hospital superintendents confirmed by individual reports and by inspections by physicians on state hospital committees and with the advice of experts in hospital matters, three graded lists of approved hospitals have been prepared and published, as follows:

Registered Hospitals.—A censored list of hospitals has been published in the American Medical Directory since 1906, but its importance, apparently, was not recognized. Early in 1927, however, in the inspection of certain hospitals seeking approval for intern training, some notoriously unethical procedures were discovered, showing them unworthy of being named in any published list. In the publication of hospital statistics since 1928, the Council has omitted the names of those reported as unethical, and the list of hospitals has been referred to as the "Hospital Register." The information regarding unworthy institutions, meanwhile, has been furnished by the Association's army of county medical society secretaries and the information was verified by and other information obtained from the biographic index and from other sources, in which information with regard to any unethical practices by physicians is filed in a routine manner. Thus the Association's annual presentation of hospital statistics is also regarded as a register in which are named only those hospitals which are deemed worthy.

Hospitals Approved for Interns.—The first list of hospitals for interns was prepared in 1914. At that time there were not enough hospitals using interns to provide places for all students then graduating, so this first list necessarily contained the names of all hospitals willing to use them—excepting such as were known to be unworthy or were using interns as orderlies. Prior to about 1918, therefore, no definite curriculums for intern hospitals could be required.

The rapid increase in the number and size of hospitals since the World War has caused a greater demand for interns than can be supplied and the Council has felt justified in approving only the hospitals that are furnishing a better instruction for interns. The Council also has gradually strengthened its "Essentials of an Intern Hospital." Until 1925, any necessary inspections of hospitals were made by physicians who were members of state hospital committees.

Necropsies: Early in 1927, because of their great educational value, an investigation was made to ascertain the percentages of necropsies held on patients dying in hospitals and, beginning Jan. 1, 1928, a minimum requirement of 10 per cent of necropsies was required for all hospitals approved for intern training. The requirement was increased to 15 per cent beginning Jan. 1, 1930.

Staff Conferences: The best value of staff conferences is obtained in hospitals where the necropsies are presented at regular weekly or biweekly meetings, along with the investigations regarding deaths or patients critically ill. Along with necropsies, therefore, their discussion in hospital staff conferences was specified among the essentials of an intern hospital.

Inspections: This more definite program for the training of interns made necessary more careful inspections of intern hospitals. In January, 1928, therefore, a routine and more detailed inspection of all intern hospitals was begun by well qualified inspectors sent out directly from headquarters. These inspections do not replace but are supplementary to the investigations made by state hospital committees. In this way all hospitals are given equally thorough and fair consideration.

Hospitals Approved for Residents.—This list was begun in 1914 in a separate section from the list of hospitals for interns, this second section being a list of special hospitals, in some of which only those applicants were accepted who had already completed an internship. The publication of this list separately began in 1927, when a number of general hospitals also were included which provided for advanced internships in one or more of the special fields for students who had already completed their intern service. For such students the word "resident" was preferred in order to differentiate them from "interns." The word "residency," therefore, implies that an internship has already been completed and the student is beginning his work leading to advanced training and skill in one of the special fields.

LISTS OF APPROVED LABORATORIES OF PATHOLOGY AND RADIOLOGY

The first tentative list of approved clinical laboratories was published in 1926. It consisted of private clinical laboratories only and did not include hospital departments of clinical pathology. Likewise, the first list of approved radiologic laboratories —now in course of preparation—will consist of private radiologic laboratories and may not include hospital departments of radiology. It appears that the conditions found in private laboratories of pathology and of radiology come nearer to meeting the desirable minimum conditions than should be required of the departments of radiology in some hospitals. The minimum conditions might first be required in hospitals for intern training. In all probability, most of the teaching hospitals will secure such well equipped laboratories voluntarily. The conditions found in the private laboratories of pathology and roentgenology, also, will be of value in suggesting what equipment even the smaller hospitals should have.

III. Replies to Resolutions

THE CONTINUOUS SESSION, OR "QUARTER SYSTEM"

During the last year, besides the regular activities of the Council already outlined in this report, consideration has been given to the several resolutions referred to the Council by the House of Delegates. Two years ago, Dr. Southgate Leigh of Virginia presented a report to the Reference Committee on Medical Education urging that the subject of medical education be given full consideration, including also preliminary medical education and the year of hospital training, and report its recommendation to the House. The report of the reference committee was adopted in which the committee endorsed the substance of Dr. Leigh's resolution as follows:

1. That it would be most desirable that medical students should graduate and enter practice at an earlier age than at present.

2. That the plan of covering the medical course in three years of four quarters each instead of in four years of three quarters, with an interval of long vacation which is illustrated by the plan proposed at Duke University, and any other adequate plan of reducing the length of the medical course is greatly to be desired.

3. That the medical course is overcrowded with details and with detailed consideration of the specialties and would be improved by a less crowded course confined more nearly to the essentials and to the fundamentals, and that efforts to this end should be made.

The adoption of the continuous method of medical instruction whereby a student can complete the four required college years of medical education of eight or nine months each in three calendar years is being attempted in eight medical schools. This plan of shortening the length of the medical course has been continually borne in mind by the Council and, indeed, has been discussed at several of the annual conferences. The statistics heretofore presented by the Council have shown the average age of students graduating to be 26½ years, or 27½ years, counting the year's internship. Any method, therefore, that can reduce this maximum age would be a move in the right direction. It is interesting to note that this method of shortening the course is being attempted by the new medical school of Duke University, which will be opened this fall.

MORTALITY FROM CHILDBIRTH

The following resolution by Dr. James R. Bloss of West Virginia was submitted to the House of Delegates in July, 1929, was referred to the Reference Committee on Medical Education and, with certain revisions, was submitted to the Council on Medical Education and Hospitals, as follows:

WHEREAS, The time allotted for the teaching of obstetrics in the curriculums of the several medical schools has been cut down and is inadequate to drill the student thoroughly in this important major, be it

Resolved, That the House of Delegates request the Council on Medical Education and Hospitals to investigate the present teaching of obstetrics in this country, and make such recommendations for increasing the clinical teaching hours of obstetrics as the results of its investigations may warrant.

Consideration of the resolution leads to the conclusion that the teaching of obstetrics in medical schools has been tremendously improved since 1905, a statement based on the following facts:

1. Announcements of medical schools show that all medical schools offering four years of instruction have regular staffs for the teaching of obstetrics.

2. The time devoted to the teaching of obstetrics on the average compares favorably with the time devoted to the teaching of surgery.

3. In the "model curriculum" formulated in 1909 by the Committee of One Hundred, acting under the auspices of the Council on Medical Education, 650 hours was assigned to obstetrics as compared with 680 hours for surgery.

4. In the several complete tours of inspection of all medical schools, their rating in class A, B or C depended, among other things, on the provision made by each school for instruction in obstetrics by means of (*a*) lectures or recitations, (*b*) the examination of patients in prenatal clinics, (*c*) the witnessing of the delivery of patients in demonstration clinics, and (*d*) the provision of opportunities of students to deliver maternity patients personally under supervision.

5. Not only have the Council's requirements been well met in the medical schools, but increasing numbers of maternity patients have become available whereby the recent graduates have been enabled to care personally for larger numbers of patients.

6. Even with the great improvements secured since 1900, efforts for further improvement have not been relaxed. In the Council's recent conference, for example, a special symposium on the teaching of obstetrics was arranged, in furtherance of Dr. Bloss's resolution.

A further investigation of this problem is now being made by the White House Conference on Child Health and Protection. The investigations of that committee should and probably will include investigations with regard to maternity cases of the several types of practitioners other than physicians.

SURVEY OF SMALLER HOSPITALS

The following resolution, by Dr. T. O. Freeman of Illinois, was submitted to the House of Delegates in July, 1929, and was referred to the Reference Committee on Medical Education:

WHEREAS, Many hundreds of small hospitals throughout the country are greatly handicapped through their inability to determine the proper standards for their conduct, and

WHEREAS, Many hospitals believe that at this time there are several organizations endeavoring to aid in hospital standardization, and not entirely along the same lines, and

WHEREAS, Those in charge of these institutions are desirous at all times of giving the best service possible to those whom they serve and the best training possible to their pupil nurses, and

WHEREAS, It is the general opinion of staff members and those in authority in our smaller hospitals that the American Medical Association, whose membership and fellowship are composed of physicians in all branches of medical and surgical work, is naturally the proper organization to standardize our hospitals, therefore be it

Resolved, That the Council on Medical Education and Hospitals of the American Medical Association be urged by this House of Delegates to make a survey of the needs of our smaller hospitals, render all possible assistance to all such institutions desirous of improving their system of records, and improving their usefulness to those whom they serve, and be it further

Resolved, That the Council on Medical Education and Hospitals offer its assistance and assurance of cooperation to the various state registration departments so that they will know the proper place to procure such assistance as they may desire in their endeavor to classify accredited hospitals.

Although not recommended for adoption by the reference committee, it should be stated that all county medical society secretaries are now well aware of the interest of the Council on Medical Education and Hospitals in the work of standardization. Following the issuing of the recent Hospital Number of THE JOURNAL,[1] a copy was mailed to every county society secretary and a wide publicity given to the list of worthy hospitals published in that issue. In addition, a special investigation is being made regarding smaller hospitals.

HOSPITAL ADVERTISING

The following resolution, by Dr. Burt R. Shurly of Michigan, was submitted to the House of Delegates in July, 1929, and was referred to the Reference Committee on Medical Education:

WHEREAS, The medical profession has provided definite rules and regulations for members of the American Medical Association in regard to advertising and publicity, and

WHEREAS, Some hospitals, municipal and otherwise, have advertised special and wonderful cases in the daily press and have given to the public stories of their special excellence and efficiency as compared with other hospitals in the neighborhood, therefore be it

Resolved, That these advertisements be specially collected and presented to the Council on Medical Education and Hospitals, and that this question of hospital advertising be given due consideration and reported to the House of Delegates at the next annual meeting and the rating of the hospitals be affected according to unethical advertising published.

The reference committee substituted the following for the final paragraph of Dr. Shurly's resolution:

Resolved, That any physician observing such advertisements be requested to send them to the Council on Medical Education and Hospitals for its information and use in the rating of hospitals.

The Council on Medical Education and Hospitals will be pleased to receive copies of any questionable advertising being sent out by any hospital. These will be filed with other information obtained regarding each hospital.

PRACTICAL EXPERIENCE FOR MEDICAL STUDENTS

The following resolution, by Dr. E. J. Goodwin of Missouri, was submitted to the House of Delegates in July, 1929, and was referred to the Reference Committee on Medical Education with the following preamble:

At the annual meeting of the Missouri State Medical Association at Springfield last May the retiring president, Dr. Frank I. Ridge of Kansas City, in his message to the house of delegates recommended that medical schools be encouraged to arrange for periods of practical experience for students between the second and third years and between the third and fourth years. This practical experience, he suggests, can be provided by apprenticing the students during the summer vacation to practitioners of high standing, preferably in rural communities. He endorsed the one year internship in a hospital and thought a second year would be beneficial. This second year, he proposed, could be obtained by the apprenticeship mentioned.

By such an arrangement the medical students and newly graduated physicians will know something about contact with the people they must handle and learn to treat disease by actual contact with the patients in their homes. At the same time the practitioner in the rural community will have his interest reawakened in laboratory methods and the latest developments in therapeutic measures.

This recommendation of President Ridge was approved by the House of Delegates of the Missouri State Medical Association, and our delegates to the American Medical Association were instructed to offer the proposition to this body for consideration. In accordance with this instruction the Missouri delegates offer the following resolution:

Resolved, That the House of Delegates instruct the Council on Medical Education and Hospitals to consider the plan proposed by the Missouri State Medical Association, and if, in their judgment, it is found feasible and beneficial, the Council is urged to encourage medical schools to inaugurate suitable methods for providing these vacation periods of practical experience for their students.

Arrangements have already been provided by the University of Wisconsin Medical School for "modern preceptorships associated with teaching centers," as described by Dr. Bardeen, dean of the University of Wisconsin Medical School, in an article read at the annual conference in February, 1928.

"Students are being assigned to physicians' 'preceptorial quarters' (January to April or March to June). The student is assigned to an approved preceptor who is in position to provide the student with suitable hospital, laboratory and library facilities for effective work," the physicians' specialties being general surgery, urology, obstetrics and pediatrics. Each student keeps track of cases examined and enthusiastic reports have been received in regard to their experiences. (An account of this appeared in full in THE JOURNAL, April 14, 1928, page 1,177). This is an interesting experiment in medical education but has been tried out for so short a time that an opinion in regard to its value cannot be expressed at this time.

SUMMARY

WORK OF THE YEAR

The Council's work during the year has progressed satisfactorily, and data regarding medical education were published in the educational number of THE JOURNAL, Aug. 17, 1929. Attention is called to the editorial on page 547 and to the charts on page 530.

Statistics for 1929 in regard to hospitals were published, March 29, 1930. Attention is called also to the papers by individual authors appearing in that number.

Statistics regarding examinations held by state licensing boards during 1929 were published, April 29, 1930. Note should be made particularly of the progress by basic science boards as shown by the statistics on page 1318, and also the progress made by the National Board of Medical Examiners. The licensing boards of thirty-nine states and three territories are recognizing the National Board certificate.

INVESTIGATIONS IN PROGRESS

The Council is making a detailed study of small hospitals. A questionnaire was sent to all hospitals having less than fifty beds asking for information with regard to the training and character of hospital staff members; the provision made for clinical and radiologic laboratory work either inside or outside the hospital and by whom; provision for consultation with regard to danger-line or uncertain cases; the hospital's rule regarding nonmedical practitioners, and other facts relating to the need of increased hospital facilities in the community. Efforts are being made to verify these statistics collected by correspondence with those having knowledge concerning the hospitals. This investigation, when completed, will undoubtedly be of great value.

An investigation of radiologic laboratories is also nearing completion, on which will be based a list of those considered worthy of approval.

1. March 29, 1930.

PROGRESS OF TWENTY-FIVE YEARS

Medical Education.—A brief summary shows the progress in medical education since the Council was created and the extent of the field now under the Council's supervision:

In 1904 there were 162 medical schools in the United States varying from those of excellent grade down to a few that were nothing more than diploma mills. Only two schools were requiring college work for admission; only a minor portion were controlled by universities; no complete inspection of all medical schools had been made, and no classification had been formulated.

In 1906-1907, however, the Council completed its first inspection, and the first classification of medical schools was read at the annual conference in 1907. The 162 medical schools were graded on a percentage basis, eighty-three receiving a grade between 70 and 100 per cent (class A); forty-seven between 50 and 70 per cent (class B), and thirty-two below 50 per cent (class C). At present, in 1930, of the sixty-six medical schools that have been classified, all are rated in class A and all require college work for admission.

Under a rigid and fair interpretation of the essentials, about a score will need to make additional improvements to be continued among acceptable medical schools. Two new medical schools have been created recently, the University of Southern California School of Medicine at Los Angeles, opened in the fall of 1928, and the School of Medicine of the Duke University, Durham, N. C., which will open in October, 1930.

In 1904, the conditions in medical licensure in the United States were as unsatisfactory as in the medical schools. At present, however, the requirements for licensure in forty-three states are uniformly high, comparing favorably with the present requirements of medical schools.

Hospitals.—As late as 1915, enough hospitals were not using interns to provide internships for all students then graduating. At present, however, more hospitals are applying for interns than can possibly obtain them. This justifies the Council in requiring a better development before hospitals are approved for intern training.

Since 1928, the hospital number of THE JOURNAL has functioned as a Hospital Register and gives the names of those hospitals which are ethically conducted. At present, 6,665 hospitals are included in the Hospital Register having a total bed capacity of 907,133.

Work in the undergraduate medical schools, graduate schools and hospitals is becoming better correlated whereby the student can secure the training required either for the general practice of medicine or for any desired specialty.

At present, of the private clinical laboratories, 178 are approved and their directors are physicians who have specialized in clinical laboratory work. The laboratories of radiology are now being investigated and a list of those considered worthy of approval is being prepared.

Resolutions Submitted in July, 1929.—At the annual session of the American Medical Association at Portland, Ore., in July, 1929, four resolutions were presented by members of the House, were acted on by the Reference Committee on Medical Education and Hospitals, and were referred to the Council on Medical Education and Hospitals for information or action. These resolutions were on: mortality from childbirth, submitted by Dr. James R. Bloss of West Virginia; survey of small hospitals, submitted by Dr. T. O. Freeman of Illinois; hospital advertising, submitted by Dr. Burt R. Shurly of Michigan, and practical experience for medical students, submitted by Dr. E. J. Goodwin of Missouri. These four resolutions and the Council's replies are given on pages 1599 and 1600.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.
RAY LYMAN WILBUR, Chairman.
WALTER F. DONALDSON.
REGINALD FITZ.
MERRITTE W. IRELAND.
EMMETT P. NORTH.
JAMES S. MCLESTER.
LOUIS B. WILSON.
N. P. COLWELL, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

All matters referred to the Council on Scientific Assembly have received official attention and have been disposed of at regular meetings held since the last annual session.

The annual conference of the Council with the section secretaries was held in Chicago, January 11.

ASSIGNMENTS FOR SECTION MEETINGS AT DETROIT SESSION

The meeting hours of the sections at the Eighty-First Annual Session have been assigned as follows:

MORNING	AFTERNOON
Diseases of Children	Practice of Medicine
Surgery, General and Abdominal	Obstetrics, Gynecology and Abdominal Surgery
Ophthalmology	Laryngology, Otology and Rhinology
Pharmacology and Therapeutics	Pathology and Physiology
Nervous and Mental Diseases	Orthopedic Surgery
Dermatology and Syphilology	Urology
Gastro-Enterology and Proctology	Preventive and Industrial Medicine and Public Health
	Radiology

CLINICAL LECTURE PROGRAM

For several years the first two days of each annual session have been given over to a clinical program. In the beginning, the first day's program was devoted to clinics and that of the second day to clinical lectures. After careful appraisal, based on personal observations of the members of the Council and on comments and criticisms offered by Fellows in attendance and by contributors to these programs, it was thought best to discontinue the clinics and confine the clinical programs to lectures. It is the purpose of the Council to have these lectures deal with subjects of practical and timely importance to the rank and file of the profession. They have been presented by outstanding men in the profession at sessions previously held, and the program arranged for this year is fully up to the high standards already established.

Because of difficulties encountered at meetings previously held, the clinical lectures this year will begin in the afternoon of the first day of the session instead of in the morning as heretofore.

LINKING SECTION PROGRAMS WITH THE SCIENTIFIC EXHIBIT

For several years the Council on Scientific Assembly and the Committee on Scientific Exhibit have cooperated in an effort to make section programs and the Scientific Exhibit supplementary in enhancing the value of the scientific work of the Association. Gratifying progress is being made in this direction. Many of the section papers are now devoted to discussion of subjects treated in the Scientific Exhibit and several complete exhibits are presented by sections of the Scientific Assembly.

IN APPRECIATION

The officers of the sections of the Scientific Assembly have been zealous and efficient in their work, which has been characterized by a fine spirit of unselfish cooperation. The Council desires, also, to express its appreciation of the generous response of those who have participated in the clinical lecture programs and of the high quality of their contributions.

Respectfully submitted.

J. SHELTON HORSLEY, Chairman.
JOHN E. LANE.
FRANK H. LAHEY.
ROGER S. MORRIS.
LEWIS H. MCKINNIE.
WILLIAM GERRY MORGAN, President-Elect. } Ex officio.
MORRIS FISHBEIN, Editor, THE JOURNAL. } Ex officio.
OLIN WEST, Secretary. } Ex officio.

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SATURDAY, MAY 17, 1930

TREND OF RESEARCH ON THE STREPTOCOCCI

While hundreds of papers on the streptococci are published each year, many questions on the specificity and toxigenic power of these organisms remain in dispute. The immunologic research has, however, a definite trend. In a recent address before the Society of American Bacteriologists, Hektoen [1] reviewed evidence that points to the specificity of certain streptococci in the causation of scarlet fever and erysipelas. The careful, perhaps classic, observations of the Dicks were foremost. They observed that a nurse attending a patient with scarlet fever developed a mild attack two days after noticing that her finger was sore. When the rash was intense, a hemolytic streptococcus was obtained from the pus in her finger. A culture of this organism was swabbed on the tonsils of five persons, one of whom developed typical mild scarlet fever. The filtrate of this culture was inoculated in five volunteers without any effect, but the unfiltered culture applied to the throat of one of the five caused typical scarlet fever in forty-eight hours. While this strain of streptococcus fermented mannitol, scarlet fever was produced similarly in another volunteer with a strain that did not ferment mannitol. Nicolle, Conseil and Durand and Moriwaki report also the production of scarlet fever in volunteers by inoculating the throat with streptococci from patients who had scarlet fever. The conclusion has been drawn, therefore, that hemolytic streptococci may cause scarlet fever. Other observers have failed to accept this view; some claim at least that the streptococci from scarlet fever, erysipelas and puerperal infection appear to produce toxins that are closely related if not identical. But much work that has been reported on streptococcus toxin and antitoxic serums must be discarded because of faulty technic. It is no wonder, Hektoen says, that skin tests with streptococcic filtrates have been confusing, for the question of the purely toxic, the allergic or the mixed nature of the reactions has not been taken into account.

Hardly a half of those who have been exposed to scarlet fever develop a typical attack. Drs. George F. and Gladys H. Dick inoculated ten young persons who had not had scarlet fever with the mannitol fermenting strain of streptococcus, but only two acquired scarlet fever. This led them to a study of the difference in susceptibility of people by means of skin reactions following injection of the streptococcus filtrate. It was found that in 41.6 per cent of the persons who gave no history of scarlet fever there was a definite skin reaction and that the skin test became negative after an attack of scarlet fever. That experiment was the foundation for the Dick test. The question naturally arose whether scarlet fever streptococci produced a specific toxin with which immunity might be produced. Further experiments were performed; nonimmunes who were injected with the streptococcic filtrate developed a rash, fever, nausea, vomiting and general malaise but not tonsillitis, and afterward their skin tests, which had been positive, became negative. Some degree of immunity thus was produced by injecting the toxic filtrate. This substance was therefore regarded as a true toxin capable of causing the production of a specific antitoxin. When horses were injected with increasing quantities of the streptococcic filtrate, they developed specific antitoxic substances that could be concentrated by the methods used in concentrating diphtheria antitoxic serum. It has since been abundantly demonstrated that a complete active immunity can be developed in susceptible persons by the injection of scarlet fever toxin.

There are many arguments in favor of the doctrine that the streptococci of scarlet fever and erysipelas are specific agents and produce specific toxins. It is admitted, however, that the effects produced by the toxic streptococcic filtrates may be of an allergic nature. Ando's recent work in this connection is of interest. He isolated from Dick's scarlet fever toxin a nucleoprotein and a specific toxin, both of which caused typical skin reactions. No evidence of allergy was obtained with the toxin, but the nucleoprotein proved to be allergenic. Erysipelas has never been confused clinically with scarlet fever. In none of the records of epidemics are there instances in which some patients had scarlet fever and some erysipelas or in which several patients had the two diseases at the same time. There are few instances in which erysipelas has complicated scarlet fever or vice versa. If both diseases were caused by the same agent, that would not be an unusual occurrence. Of 3,979 scarlet fever patients treated at the Durand Hospital in Chicago, only three developed erysipelas, all of the face. Among 48,366 scarlet fever cases in the Metropolitan Asylum Board Hospitals, only fifty-five were complicated by erysipelas, while 1,094 were complicated by diphtheria and 899 with chickenpox. If

1. Hektoen, Ludvig: Advances in the Study of Streptococci, J. Bact. 19: 57 (Feb.) 1930.

the scarlet fever streptococcus is the same as that which causes erysipelas, why is permanent immunity established following an attack of scarlet fever, while, following an attack of erysipelas, the immunity is transitory and subsequent attacks are not infrequent. Birkhaug made skin tests on 407 persons, obtaining a positive reaction with scarlet fever toxin in 52 per cent and with the erysipelas toxin in 24 per cent, but only in 10 per cent with both toxins. These results have been confirmed. Among 100 convalescents from scarlet fever in whom the skin reaction to the scarlet fever toxin had become negative, 52 per cent of them still gave positive skin reactions to erysipelas toxin. These results, in Hektoen's opinion, clearly indicate that there is no relation between the toxins of the streptococcus of scarlet fever and the toxins of the streptococcus of erysipelas. The two diseases are as distinct etiologically as they are clinically.

BLOOD FLOW IN THE EXTREMITIES OF PATIENTS WITH HEART DISEASE

Physicians have long known of the pallor of aortic insufficiency and of the "languor of the arterial circulation causing the extremities and surface to be chilly"[1] in heart failure. The recent interest in peripheral blood flow led to the discovery that in aortic regurgitation the skin may be flushed and warm[2] and that rapid blood flow in the limbs may be present in spite of circulatory embarrassment. Many observers have estimated the flow through the limbs by inference from the gas content of the venous blood, not by the more direct plethysmographic method. It probably is permissible to assume that the metabolism of resting limbs is fairly constant and that the amount of oxygen removed from each unit of blood passing through the capillaries varies inversely as the total volume of flow. Large differences in oxygen content of arterial and venous blood therefore indicate that only a small volume of blood is passing through the limb. In 136 normal persons[3] the arteriovenous oxygen difference in the arm averaged 4.8 per cent by volume. There is little difference in gas content of arm and leg vein blood of normal persons at rest.[4] However, the difference in arteriovenous oxygen of normal persons ranged from 2.5 to 9 per cent by volume in a series tabulated by Rabinowitch,[3] indicating that it is hazardous to draw conclusions as to cardiac output from the gas content of arm vein blood. The range of normal cardiac output or of basal metabolism is only one fourth as great as the variation in blood flow of the resting limb. Environmental temperature, an important moderator of flow in the limbs, has little effect on cardiac output. Therefore, observations on blood from the arm or the leg should be interpreted in terms of local, not general, blood flow. Because of the wide normal range, one must be cautious in the interpretation of small variations in disease.

Grant,[5] at the Peter Bent Brigham Hospital, Boston, was one of the first to point out that blood flow in the arm might be rapid in patients with cardiac failure, at the time when clinical improvement was beginning. In five patients he noted that oxygen utilization was 5.3 per cent by volume when the patients were much distressed, but only 2.5 per cent by volume a few hours later following venesection or thoracentesis. In other words, flow in the arm more than doubled when the condition of the heart and circulation was improved, although it had previously been slower than the average rate. Later others reported occasional high volumes for blood flow through the arm in heart failure, but the usual determination was the reverse. In Rabinowitch's[6] ten cases the average utilization was 11 per cent by volume, so that the flow was presumably less than half the normal volume. The decrease in flow is due to vasoconstriction to maintain normal blood pressure in spite of a decreasing cardiac output. With a failing heart, flow in the limbs is probably decreased more than that in more vital areas, and when the cardiac condition is improved and the vasomotor tone decreases, flow through the extremities increases more than elsewhere to compensate for the more profound previous asphyxia.

Recent evidence proves that the same variations from abnormally slow to abnormally rapid flow may be observed when an alteration of the circulation of a limb is due, in part, to local causes. De Takáts[4] found that the blood flow was distinctly diminished in the dependent legs of patients with varicose veins (plus edema in some cases). Blalock apparently found decreased oxygen utilization, that is, greater blood flow than normal, in femoral veins of semirecumbent patients with varicose veins. Harrison and Pilcher[7] analyzed femoral vein blood from semirecumbent persons and reported a normal arteriovenous difference of 5.8 per cent by volume, but 6.5 per cent in cardiac failure without edema, 5.8 per cent with moderate and 6 per cent with marked edema. In general the blood flow was therefore decreased in heart failure. When they omitted the patients who had acidosis or digitalis intoxication, they found that there was a lower utilization with moderate and with marked edema (5.1 and 4.5 per cent by volume, respectively). In such small series one hesitates before accepting as significant variations of the average as small as 25 per cent, since

1. Hope, J.: A Treatise on the Diseases of the Heart, Edinburgh, 1832, p. 267.
2. Lewis, Thomas: Studies of Capillary Pulsation, with Special Reference to Vasodilatation in Aortic Regurgitation, Heart **11**: 151 (April) 1924.
3. Rabinowitch, I. M., and Bazin, Eleanor V.: The Output of the Heart per Beat in Hyperthyroidism, Arch. Int. Med. **38**: 566 (Nov.) 1926.
4. De Takáts, Géza; Quint, Harold; Tillotson, B. I., and Crittenden, Phoebe J.: The Impairment of Circulation in the Varicose Extremity, Arch. Surg. **18**: 671 (Feb.) 1929.
5. Grant, S. B.: Changes in the Blood Oxygen Following Therapeutic Bleeding in Cardiac Patients, J. Lab. & Clin. Med. **9**: 160 (Dec.) 1923.
6. Rabinowitch, I. M.: The Output of the Heart per Beat in Heart Disease, Arch. Int. Med. **36**: 239 (Aug.) 1925.
7. Harrison, T. R., and Pilcher, Cobb: Studies in Congestive Heart-Failure: I. The Effect of Edema on Oxygen Utilization, J. Clin. Investigation **8**: 259 (Feb. 20) 1930.

the normal subjects vary by 500 per cent (from 2.5 to 12.5) and the abnormal by 1,000 per cent (from 0.83 to 9). Yet there is a suggestion that, with the more favorable condition of reduced venous pressure in the semirecumbent individual, blood flow in the edematous leg may be greater than in the normal. It certainly exceeds that in edema-free extremities of cardiac patients, thus approaching the condition in the arm after relief of serious cardiac embarrassment, and in the varicose extremity after elevation. The work of Lewis and Grant [8] indicated that the increase in blood flow above normal, observed when local circulatory obstruction was released, varied in duration with the degree and duration of the obstruction. With the marked tissue alteration noticeable in patients with varicose veins or evidenced by edema, such a "reactive hyperemia" might last for hours or days when the limb was elevated. It is possible that the rapid blood flow evoked by edema, like that due to warmth or to infection, persists even when the leg is dependent. This has not been demonstrated, and analogy with the varicose leg suggests that it is not present in edematous legs until venous pressure is reduced. Since the difference in blood flow in edematous and nonedematous limbs is insignificant in comparison with the increase in flow in the arm when the circulation is improved by venesection, one may question whether edema is an effective stimulus for "reactive hyperemia."

Harrison and Pilcher did not consider the work of Grant or of de Takáts; they concluded that edema increased blood flow through the tissues and were led to theorize as to the rôle of edema in the production of heart failure. They suggested that the usual view, that heart failure implies a diminished cardiac output, was erroneous. Contrary to the conclusion of Harrison and Pilcher, edema in heart disease can merely be regarded as a consequence and not as a contributing cause of heart failure. Its occurrence in dependent limbs, and the speed with which it may be absorbed when the limb is elevated, is evidence of the preponderant rôle of high venous pressure in the production of this edema. A reduction in venous pressure or an improvement in cardiac efficiency permits a normal or supernormal flow. Grant's observation of a doubling in blood flow in the arm after therapeutic bleeding for severe cardiac failure is another proof of the importance of reduction in blood volume in the therapy of the symptoms of cardiac failure. Nature's attempt to reduce blood volume by allowing fluid to escape into tissue spaces causes most of the symptoms of heart disease, and it must be remembered that heart failure is one of the disorders in which "a man may often with stricter propriety be said to die of his symptoms than to die of his disease." [9]

8. Lewis, Thomas; and Grant, R.: Observations upon Reactive Hyperemia in Man, Heart **12**: 73 (June) 1925.

9. Latham, P. M.: Lectures on Clinical Medicine, Diseases of the Heart, London **2**: 363, 1845.

MORE FUNNY ADVICE ON LONGEVITY

The key to health and longevity is a favorite theme for professional writers in every field of wisdom. Few have developed formulas that will pass inspection by critical investigators. The opponents of tobacco and alcohol find their doctrines thwarted by the reports of numerous persons who reached a "ripe old age" despite, if not because of, the cup that cheered or the pipe that soothed their declining years. Not long ago Eugene Christian, who proclaimed the ready possibility of reaching 100 years of age through attention to his back-to-nature diets, disheartened many of his devotees by dying at a relatively early age. The history of such propagandists is rarely a recommendation for the doctrines that they attempt to inculcate or the advices that they venture to supply—frequently on a *quid pro quo* basis. The wise man usually learns to avoid the advice of quacks; their inconsistencies or chicanery are as a rule appreciable without detailed expert investigation. However, the assertions of well meaning faddists all too often produce a profound impression among those who respect their special knowledge and hence trust their pronouncements. Error may thus find root in the soil of devotion.

Recently one of America's distinguished philosophers burst forth on the hygiene of old age [1] in a distinguished literary magazine—the *Atlantic Monthly*. The *Atlantic* would no doubt exercise extreme editorial caution toward the exposition of discussions in the field of literature, economics, government and sociology, which comprise its major concern. Yet now in its columns one may read the admonition that milk is a "particularly dangerous food." The import of this warning is made clearer in the added reminder that "milk is a food, not a drink. It should be taken in sips." The epilogue unfortunately comes rather late to reassure the candidate for old age who had earlier been taught that milk is nature's ideal food.

The essayist's comments on the world's foremost cereal sound equally forbidding. "White flour in all its forms should be avoided. Whatever is nutritious in the grain has been sifted out and thrown away. Whatever pleases the eye and tongue, even though injurious, is preserved." THE JOURNAL [2] has recently referred to the limitations of the whole-wheat propaganda and the outcry against white bread. It seems unnecessary to rehearse the familiar arguments anew. Our philosophical adviser's warnings regarding flesh foods are even more drastic and, indeed, utterly incomprehensible. "Beef, pork and salt fish should not be eaten at all. Other varieties of meat are valuable and should be eaten at least once a day." Surely the raisers of mutton and poultry will rejoice that they, at least, have avoided evil ways. The government's great reindeer herds that have been of concern to the Department of

1. Palmer, George Herbert: On Growing Old, Atlantic Monthly, February, 1930, p. 319.

2. Our Daily Bread, editorial, J. A. M. A. **94**: 718 (March 8) 1930.

Agriculture may yet serve as dietary adjuvants to promote growing old; and horse meat steaks may gain respectability on the shelves of the butcher's shop. Other suggestions on bathing, evacuations and the ventilation of the bedroom are presented with equal confidence by the aged contributor. They form the prologue to a discussion of the moods that render their possessor "fit to grow old."

So even a philosopher, growing old, begins to hearken wistfully to the rumbling in his interior, to cogitate on the lack of punctuality in his peristaltic responses, to hazard wild guesses regarding physiology, chemistry and other subjects in which thought cannot substitute for fact, and thus to be no longer a philosopher but merely a man grown old.

Current Comment

EMOTION AND SPLENIC RESPONSE

By exteriorizing the spleen, Barcroft [1] showed in 1927 that the spleen responded to emotional excitement by contraction and that the contraction was brought about by nerve impulses except in the more violent emotional states when the effect of the secretion of epinephrine was manifested. He has now [2] brought to light a nicely graduated mechanism whereby the degree of splenic contraction is seen to vary with the degree of emotional excitement to which the experimental animal is submitted. The subject of his experiments was a dog whose desire to pursue any cat in the vicinity was "rather, but not too strongly, marked." A duster waved in front of the dog's nose did not cause contraction of the spleen, but a similar duster that had served the purpose of a feline bedspread reduced the volume of the spleen by 30 per cent. When the cat in an adjoining room was persuaded to mew, the dog's spleen underwent a further slight contraction. The cat was then brought within the dog's range of vision and his spleen was reduced to less than half its natural size. Finally the dog was allowed to chase the cat for a quarter of a minute. By that time his spleen had reached its smallest limit—about a fourth of its original bulk. Hundreds of years ago men spoke of anger as "venting one's spleen." Out of the symbolism of the past comes the scientific demonstration of the present.

THE PHYSIOLOGY OF MENSTRUATION

Henri Vignes,[3] in the course of a chapter on the theories of menstruation in his textbook published last year, remarks that the doctrine of Pinard, "a woman menstruates because the egg which she has laid has not been fertilized," must remain the dominant idea. Professor Johnstone [4] carries this idea a step further, saying that, in the absence of fertilization, a regularly recurring pseudopregnancy occurs, and its termination is the phenomenon called menstruation. This is not to be confused, as it has been, with the estrual flow of other animals than man. The latter is not the result of a pseudopregnancy but of the regression of a congestive stage preparatory to coitus. In these animals there is a regularly recurring estrus, but pseudopregnancy is rare; in man there is a regularly recurring pseudopregnancy, but estrus is absent or at most vestigial. The absence of estrus must to some extent lower fertility, but this is counterbalanced by the frequency of intercourse and of ovulation. The stimulus leading to this human pseudopregnancy probably does not come from the ovum, since it can be produced when all the follicles in the ovaries have been destroyed by x-rays or otherwise. Professor Johnstone finds that a primary amenorrhea cannot be cured by the use of estrin alone. This will only initiate the pseudopregnancy and perhaps give some evidence of estrus. The pseudopregnancy, he believes, is completed by a second hormone from the corpus luteum. Novak [5] says that there is evidence to suggest, though not to demonstrate, that the pituitary may, by the probable periodicity of its own function, be the regulator of the menstrual rhythm. It is evident that our views on the cause of menstrual periodicity are changing. The solution of the problem depends on further research.

VAGINAL ABSORPTION OF ANTIGENS

The danger of acquired protein hypersensitiveness from accidental absorption through intact mucous surfaces has received considerable attention during the last decade, as has also the possibility of successful specific therapy through such surfaces. Studies of antigen absorption through the intact nasal mucosa and gastro-intestinal tract, however, have given inconstant results. The general impression of experimenters is that, while such absorptions may occasionally take place, the dangers of acquired sensitization are fairly remote and such routes offer unreliable portals for specific immunization or desensitization. A different view is suggested, however, by Finder, Lash and Simons [6] in their studies of antigen absorption through the normal vaginal mucosa. These investigators exposed vaginal surfaces by means of a speculum, and sprayed on the surfaces 1 cc. of a Berkefeld-filtered, phage-lysed broth culture of *Bacillus typhosus*. Blood drawn from the ninety-eight patients thus far tested were Widal-negative before the operation. By the end of the first week after application of the vaginal vaccine, however, 60 per cent of the patients had specific typhoid agglutinin in the circulating blood, increasing to 70 per cent by the fourteenth day and to 80 per cent by the end of three weeks. No increase took place after the third week. In but 20 per cent of their patients was vaginal absorption insufficient to produce demonstrable serologic changes.

1. Barcroft, Joseph; and Stevens, J. G.: Observations on the Size of the Spleen, J. Physiol. **64**: 1 (Oct. 5) 1927.
2. Barcroft, Joseph: Some Effects of Emotion on the Volume of the Spleen, J. Physiol. **68**: 375 (Jan. 27) 1930.
3. Vignes, Henri: Physiologie gynécologique et médecine des femmes, Paris, Masson & Cie, 1929, p. 216.
4. Johnstone, R. W.: The New Physiology of Menstruation and Its Practical Implications in Obstetrics and Gynecology, Am. J. Obst. & Gynec. **19**: 167 (Feb.) 1930.
5. Novak, Emil: Recent Advances in the Physiology of Menstruation, J. A. M. A. **94**: 833 (March 22) 1930.
6. Finder, J.; Lash, A. F., and Simons, J.: Antigen Absorption Through Intact Vaginal Mucosa in Humans, Proc. Soc. Exper. Biol. & Med. **27**: 368 (Feb.) 1930.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Twenty-Sixth Annual Meeting, held in Chicago, Feb. 17, 18 and 19, 1930

(Continued from page 1510)

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

FEBRUARY 19—AFTERNOON

TEACHING OF OBSTETRICS

The Fundamentals of Obstetric Practice

DR. FRANK W. LYNCH, San Francisco: If we are here to assist in the development of the average medical student, we must utilize every known teaching device to force him to do his own thinking. Unless we illustrate our lectures and recitations with models, charts and moving pictures and our laboratory courses with numerous gross pathologic specimens, and supplement the manikin exercises with practical instruction in pelvimetry and palpation of the pregnant woman, we cannot hope to develop the undergraduate student. This requires time far in excess of that now allotted by the Association of American Medical Colleges to instruction in obstetrics; moreover, sufficient clinical material can be found only in large and well equipped women's clinics developed for the purpose.

Our students do no practical work until they have had ninety-eight preparatory lectures and demonstrations in the third year, given by the senior professor. In the fourth year, each one is assigned to the outpatient department and wards of the combined departments of obstetrics and gynecology for five and one-half weeks of whole time work for practical instruction. In the obstetric clinics, the student learns prenatal and postnatal care, and palpates and measures the pelves of pregnant women. In the gynecologic clinic he learns what havoc can be created by poor obstetrics. In rotation he attends twenty-two labors and is also called to see all the cases of dystocia that occur in his five and one-half weeks of service. He attends staff rounds, sits in the weekly review of all complicated cases, studies pathologic tissues, is drilled in manikin exercises, and is quizzed biweekly on assigned reading in obstetrics. Yet this method is not ideal because the student is in closest contact only with junior staff officers. Had he not had ninety-eight hours of didactic teaching in his third year, he would not have been prepared for this clinical instruction. Yet the course is entirely too short to make an obstetrician. Obstetric patients may present problems that are medical, surgical or obstetrically surgical. The student can be taught much concerning his patient by the other teaching departments that aid in the treatment of pregnant women with medical and surgical complications. Yet it is usually well nigh impossible to train an undergraduate student sufficiently in obstetric pathology so that without supplementary work he could intelligently care for pregnant women. He can scarcely be trained to handle normal obstetric cases after participating in the delivery of twenty-two cases which is required of the student in the University of California Medical School. Unless he is taught in obstetric lectures how to correlate what he has learned in anatomy, physiology, biochemistry, pathology and general medicine, he can never think himself out of the maze in which a patient with complications could enfold him. Students must be taught to think and how to apply their knowledge, because even the ninety-eight preparatory obstetric lectures that we give in San Francisco are inadequate to cover properly the fundamentals of obstetrics.

A student, unless he takes a rotating service that includes obstetrics, or serves a term as intern in some maternity hospital, may enter general practice without ever having seen a difficult forceps operation. If he goes to the country to practice, the chances are that he will be so placed that he cannot obtain proper obstetric consultation if his patient develops complications while in labor.

We will not make headway in our problem until medical school authorities realize that it is unfair to the public if they recommend men for state board examinations unless they have attended, delivered and followed during the puerperium a minimum of seventy-five women.

Clinical Teaching of Obstetrics

DR. J. M. H. ROWLAND, Baltimore: The course in obstetrics should extend over two years of the medical course. A constant review of the anatomy and the physiologic functions of the parts involved in our instruction is a vital necessity in successful clinical teaching. The living subject and fresh specimens are much more useful demonstration material than museum specimens, charts or histories of old cases. Living clinical material in sufficient quantity is necessary to a course in clinical obstetrics. This necessitates both an outdoor and an indoor clinic, with enough hospital beds at least to take care of the pathologic cases that may appear in the clinic. Each of these must be manned by a staff sufficiently large and sufficiently interested in teaching medical students. Photography, including moving pictures, may be made a much more useful aid to obstetric teaching than it has been heretofore. The course in obstetrics should be allowed at least 200 teaching hours, in addition to any time spent by the student in attendance at deliveries.

Laboratory Teaching in Obstetrics

DR. JOHN OSBORN POLAK, Brooklyn: The opportunity to study the course of pathologic labor is all too infrequent, for in the average university clinic of fifty maternity beds the incidence of actual abnormality is not more than 5 or 6 per cent, except in the Southern states. It is therefore apparent that clinical instruction in the diagnosis, mechanism and management of abnormal presentation must be supplemented by manikin training in the obstetric laboratory.

Laboratory courses should make up a major part of obstetric teaching. All teaching clinics should have working laboratories in the clinic. These need not be elaborate—simply a place where the student can be taught the routine laboratory procedures in connection with the study and management of his case. He should make smears and stain and examine them; examine urine; take blood for a Wassermann test and for blood counts, and be able to do a sedimentation test; learn to examine placentas; tease out the villi, and become proficient in many other details which fit him to practice medicine by himself. If he is drilled in routine, his work is of better character: carelessness leads to inaccuracy. It might be said that he learns these things in his course in chemical microscopy, which is true, but the real value of laboratory procedures is their clinical application to the case in hand, for here their significance is correlated with the clinical picture and is unforgettable. The obstetric clinic should have ready access to the x-ray laboratory. The function of the laboratory in obstetric teaching is to correlate the preclinical sciences, the fundamentals and the value of research to clinical practice.

DISCUSSION ON PAPERS OF DRS. LYNCH, ROWLAND AND POLAK

DR. RUDOLPH W. HOLMES, Chicago: The prototype of the real teaching institution is the German Frauen Klinik, and that is the system which obtains in practically all continental Europe, though not to the same extent in England. There are about a dozen units in this country adequately prepared to teach obstetrics. The other eighty-five are deficient. The obstetrician should be the head of the obstetric department. A man who is practicing obstetrics and is not doing some gynecology is not a good obstetrician. The gynecologist who is not doing obstetrics is deficient in his work. A man must be obstetrically-minded. There should be a minimal amount of surgical teaching in obstetrics.

DR. JENNINGS C. LITZENBERG, Minneapolis: I do not want any more didactic hours. To eliminate the so-called didactic hours is a mistake. Ideal teaching is not in the small group alone. We do not need more lecture hours. We need more

clinical hours with the student in contact with the patient. We need more maternities in connection with the university hospitals or in connection with medical schools, where the students can get at least part of their training in residence. If obstetrics is being badly practiced, the teacher must take his share of the blame. We must have better teaching and better teachers in obstetrics. The departments of obstetrics in this country are not doing their part in training teachers, in producing men to do the teaching. Our plan at the University of Minnesota is the wise plan, because our graduate medical school is not a part of the medical school itself; it is a part of the graduate school of the university, and our graduate school is just the same as the graduate school in chemistry or physics or history or what-not and we are under the dean of the graduate school. We do a grade of work that is real graduate work. That means training the men in obstetrics and gynecology; not training their hands but training their heads, so that they become scholars in obstetrics and gynecology. A certain proportion of them are kept long enough in this work in the medical school and in the graduate school so that eventually they may be trained to become heads of departments or full-time men, even if they are not heads of departments. We will never fulfil our duty to the country or to medical education until more of the medical schools are manned with top men who are capable of training other men to become teachers.

DR. PALMER FINDLEY, Omaha: In talking this problem over with Dean Emerson of Indiana, I was much impressed with a remark he made to the effect that it is the business of the undergraduate medical schools to prepare the student for the first two years of general practice. What could be reasonably expected of a young man in his first two years of practice? Almost anything in internal medicine, I think; very little major surgery, except emergency work, but everything possible in obstetrics under the most unfavorable conditions.

DR. N. SPROAT HEANEY, Chicago: When we talk on the necessity of obstetrics being better taught, our audience is always composed of obstetricians. We talk to one another. We have reconverted ourselves, as it were, each year, while our problem is to get hold of the heads of other departments to whom concessions have to be made in order that we may get more hours to teach, and, what is more important, more beds to teach with, because those beds cannot come from nowhere; they must come out of other departments unless beds are to be had. Unless we convert the deans and the professors of other departments, we shall continue to run up against the same difficulty, so that year after year we shall have to talk to one another about obstetrics.

DR. E. D. PLASS, Iowa City: I believe that, generally speaking, our undergraduate teaching is adequate but that even though we send out into the world men who are trained in conservative obstetrics (and obviously that is the answer to the problem), they soon come in contact with other practitioners who have not a conservative attitude. In order to compete, they feel that they have to make a radical departure from their early training. If we as teachers would devote more time to the teaching of the graduate, trying to keep him in line with the things that he was taught as an undergraduate, I believe we would be in a fair way at least partly to solve the problem with which we have been confronted.

DR. J. WHITRIDGE WILLIAMS, Baltimore: I have been teaching obstetrics for thirty-seven years, and I have come to this conclusion: that it takes four years in the hospital to make a reasonably competent practical obstetrician; it takes another five or six years after that to make a competent obstetrician, and, to make a broad-minded obstetrician, it takes the rest of one's life. In this country one of our great needs is physical accommodation for obstetrics. What we need is institutions such as abound in Germany, namely, the woman's clinic. The question of hours does not interest me much. The training of the ordinary undergraduate interests me a great deal. I do not believe that by any stretch of the imagination we can turn out competent obstetricians at the end of the fourth year of medical school. I tell my students that all I really expect to teach them is that babies are born through the vagina. If they learn that much they have learned a good deal, and I do not expect to make competent obstetricians of them in less than four years after graduation. The first thing we need is a proper clinic. The next thing we need is the money to run it. The proper running of a university department of obstetrics and gynecology requires at least the income from $1,000,000, and then it is fairly scanty. The great thing we have to do is to train the men. When we get men trained, and properly trained, I think a good crop will be forthcoming.

(To be continued)

THE DETROIT SESSION

Aerial Transportation

Some months ago the Local Committee on Arrangements secured an agreement with the Stout Air Lines that members and Fellows attending the annual session of the American Medical Association in Detroit would be given a special rate of fare and one-half for the round trip from Chicago or Cleveland to Detroit, provided at least twenty-five persons availed themselves of this offer. After making this agreement, the regular rates over the Stout Air Lines were reduced so that they are now approximately equal to the transportation charges made by railroads including Pullman fare. This reduction led to a large increase in the traffic of the Stout Air Lines, so that reduced rates are no longer offered to those attending conventions. In the case of the American Medical Association, however, the Stout organization will adhere to its agreement with the Local Committee on Arrangements and a rate of one and one-half fare will be available to passengers flying from Cleveland or Chicago to Detroit, provided there are not less than twenty-five such passengers. Because of the regular heavy traffic, however, it is essential that those who wish to avail themselves of the services of the Stout Air Lines make definite reservations several days in advance. It will be necessary, also, to save and turn in to the company's representative at the Registration Bureau the receipt for the ticket to Detroit in order that return transportation may be had at one-half fare. All tickets must be paid for and secured by passengers at least two hours before scheduled departure time of planes; otherwise, the reservations and tickets are subject to sale.

Fare between Cleveland and Detroit is $10 one way, and between Chicago and Detroit, $18 one way. The Stout Air Lines announce that they will not be responsible for any inconvenience or disappointment due to cancellation of schedules on account of weather or to the fact that all seats have been sold by reason of heavy demands.

Complete information concerning airplane transportation by the Stout Air Lines may be secured at their offices at 400 South Michigan Avenue, Chicago; 708 Superior Avenue, N.E., Cleveland, or 139 Bagley Avenue, Detroit.

MEDICAL BROADCAST FOR THE WEEK

American Medical Association Health Talks

The American Medical Association broadcasts at 10 o'clock, daylight saving time, Monday, Thursday and Saturday; Tuesday at 10:15; Wednesday at 10:45, and Friday at 9:45, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of May 19-24 is as follows:

May 19. A Child is to be Born.
May 20. The Well Ordered Day.
May 21. How to Gain Weight.
May 22. The Business of Keeping Well.
May 23. That One Year Old, and Correcting Mother Nature's Mistakes.
May 24. Every Man's Job.

Five Minute Health Talks may be heard over the Columbia Broadcasting System daily from 1 to 1:05, daylight saving time.

The program for the week is as follows:

May 19. An Ounce of Prevention.
May 20. Facts for Fat Folks.
May 21. Where do You Sleep?
May 22. Utilizing Leisure for Health.
May 23. Updegraffian Individuals.
May 24. An Ounce of Prevention. (Colds.)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Society News.—The state health department reported an increase in malaria from 11.4 per hundred thousand of population in 1928 to 16.6 in 1929, and in influenza from 72.3 in 1928 to 121.3 for 1929. Heart disease was the chief cause of death with a percentage of 136.3 per hundred thousand of population.

CALIFORNIA

Dr. Holman Awarded Gross Prize.—The Samuel D. Gross prize of the Philadelphia Academy of Surgery has been awarded to Dr. Emile F. Holman, San Francisco, for his essay on "Abdominal Arteriovenous Communications." The Gross prize is an award of $1,500.

Personal.—Dr. Theodore L. Althausen, assistant professor of medicine, University of California Medical School, who was awarded a John Simon Guggenheim Memorial Foundation fellowship, will go to France and Germany for a year of study of diseases of the liver.

Society News.—The Los Angeles Surgical Society was addressed, May 9, by Drs. Arthur Elmer Belt on "Perineal Approach to the Prostate"; Walter William Mulvehill, "Strictures of the Ureter," and Adolph A. Kutzmann, "Diverticula of the Female Bladder."——Dr. Leo Buerger, Los Angeles, addressed the San Diego County Medical Society, May 13, on "Pathology of Thrombo-Angiitis Obliterans with Particular Reference to Critical Syndrome Developed During the World War."

Another Cancer Clinic.—The County Institutions' Commission of Alameda County recently recommended the formation of a clinic for the purpose of making a study of cancer. The county board of supervisors designated Highland Hospital, a county institution in Oakland, as the location of the clinic. An appropriation to purchase high voltage roentgen-ray equipment and radium was made by the board, and this is now being installed. Patients suspected to be suffering from malignant disease are reviewed by the clinic as a group problem in diagnosis, and then are referred to the appropriate service for the recommended treatment. Admission to the clinic is limited to persons who are unable to pay for the necessary care.

Trichinosis from Bear Meat.—California, during the first five months of 1930, had 132 cases of trichinosis, which far exceeds the incidence in any similar period. During all of 1929, there were but thirty-three cases. The sources of infection are mostly in sausages, both homemade and commercially prepared, and twenty-one cases were traced to the use of uncooked pork. Four were traced to smoked bear meat; this is the first instance on record in which infected bear meat has caused trichinosis in the state. Public health authorities conclude that no method of inspection will determine the presence or absence of trichinae, and the only way to avoid the disease is to cook all pork products to a temperature of 160 F. Fresh pork should be cooked until it is entirely white; uncooked pickled pork, smoked pork and other methods of curing pork products are not considered safe so far as trichinosis is concerned, as the thoroughness of the curing process is not always a certainty. At the meeting of the state board of public health, April 12, trichinosis was made a reportable disease.

CONNECTICUT

Society News.—The Windham County Medical Society held its one hundred and thirty-eighth annual meeting, April 17; the speakers were Drs. James C. McCann, Worcester, Mass., on peptic ulcer, and Karl T. Phillips, Putnam, "Hodgkin's Disease."

Personal.—Dr. Thomas P. Murdock, Meriden, was recently appointed secretary of the Connecticut Medical Examining Board, succeeding Dr. Robert L. Rowley, Hartford, resigned. ——Dr. Howard S. Allen, Woodbury, has been appointed health officer of Middlebury, and Dr. Paul H. Brown health officer of East Haven.——Dr. Nathan M. Spector has been appointed health officer of Willimantic, succeeding Dr. William P. S. Keating.

GEORGIA

Society News.—The Fourth District Medical Society was the guest of the Carroll County Medical Society at Carrollton, April 8; among others, Dr. Benjamin H. Clifton, Atlanta, spoke on "Value of Graded or Multiple Stage Measures in Surgery," and Dr. Francis B. Blackmar, Columbus, "Use of Lipoiodine in the Diagnosis of Maxillary Sinus Diseases."——Dr. James A. Redfearn, Albany, addressed a joint meeting of the Second District Medical Society and the Dougherty County Medical Society, April 11, at Albany, on "Home Treatment of Pulmonary Tuberculosis."

ILLINOIS

Society News.—The fifty-fourth annual meeting of the District Medical Society of Central Illinois was addressed, April 29, among others by Dr. Deane F. Stanley, Decatur, on "Practical Application of Electrocardiography."——Dr. Clifford U. Collins, Peoria, addressed the Morgan County Medical Society, May 8, at Jacksonville, on "Cervical Ribs," and Drs. Arthur Sprenger and John R. Vonachen, Peoria, on "Urologic Conditions in Infancy and Childhood."——Dr. James G. Carr, Jr., Chicago, addressed the Sangamon County Medical Society, Springfield, May 1, on "Examination of the Heart."——The Madison County Medical Society was addressed, May 2, by Dr. Carl J. Koontz, Ferguson, Mo., on heart disease.

Chicago

Society News.—Dr. E. H. Zweifel, Munich, Germany, will give a series of lectures at the Billings Hospital, University of Chicago, May 26, at 3:30 p. m., on "Bleeding in the Menopause or the Postclimacteric Bleeding"; May 28, "Treatment of Cancer of the Uterus"; May 30, "Results Obtained by the Cancer Treatment"; June 2, "Treatment of Uterine Fibroids"; June 4, "Obstetric Indications," and June 6, "Ectopic Pregnancy."——A series of lectures on the circulation was delivered at the University of Illinois College of Medicine by Walter J. Meek, Ph.D., Madison, Wis., April 29-May 1, the titles being "Cardiac Output," "Automaticity and Conduction" and "Some X-Ray Studies of the Heart."

INDIANA

Society News.—Drs. Daniel W. Weaver, Greensburg, addressed the Sixth Councilor District Medical Society at Richmond, May 15, on "Sanity in Tonsil Work"; George S. Bond, Indianapolis, "Significance of Heart Sounds"; Roy Lee Smith, Indianapolis, "Should Examination of the Cerebrospinal Fluid Be a Routine Procedure in the Treatment of Syphilis," and Charles R. Sowder, Indianapolis, "Nonsurgical Treatment of Hyperthyroidism."——Among others, Dr. Aaron J. Lauer, Whiting, addressed the Lake County Medical Society, May 8, on "Rheumatic Fever."——The Indianapolis Medical Society was addressed, May 13, by Drs. Charles R. Bird and Maurice Joseph Barry on "Carcinoma of the Lung" and "Massive Collapse of the Lung," respectively.

KANSAS

County Society Holds Public Meeting.—One of the most perfectly organized and successful public health meetings under the auspices of organized medicine was held in Kansas City, Kan., May 8, under the auspices of the Wyandotte County Medical Society. Through the committee on arrangements, headed by Dr. Charles Omer West, Kansas City, arrangement was made for representation and cooperation by the mayor, all public officials, including judges, legislators and councilmen, presidents of all men's and women's clubs and the school organization. Special tickets were issued and the size of the meeting made it necessary to use a second hall, to which the program of the general session was broadcast as a part of the general broadcast made available by the Kansas City *Kansan*, radio station KLBF. A parent-teachers' chorus of almost a hundred members provided music. Dr. Louis L. Bresette, president of the society, introduced the mayor, Mr. McCombs, and he in turn introduced the speaker, Dr. Morris Fishbein, editor of THE JOURNAL, who spoke on quackery.

NEW JERSEY

Illegal Practitioners Prosecuted.—The following illegal practitioners were recently prosecuted by the Board of Medical Examiners of New Jersey:

Martin W. Pretorius, Atlantic City, conducted the New Health Studio and held himself out as a food specialist and naprapath.

Ernest M. Bick, South Orange, found guilty of practicing medicine without a license.

Max L. Berkowitz, druggist, Newark, found guilty of practicing medicine without a license.

Joseph E. Pisano, licensed osteopath, Newark, found guilty of practicing medicine without a license; gave electric treatments, colonic irrigations and prescribed drugs.

Maime M. Barker, Montclair, found guilty of practicing medicine without a license; held herself out as a colonic therapist.

Mrs. Landon V. Scheider, found guilty of practicing medicine without a license; conducted health home for scientific feeding at Atlantic City; in addition to treating patients by preparing special diets, she also gave magnecoil blanket treatments.

Sarah Hazzard, Smiths Landing, found guilty of practicing midwifery without a license; committed to the county jail for thirty days for being unable to pay the fine.

John W. Browning, Passaic, pleaded guilty in the Passaic district court to a charge of practicing medicine without a license.

Charles Schaeffer, Sr., Oaklyn, paid the fine for practicing medicine without a license.

Charles Johnson, Camden, convicted on a charge of practicing medicine without a license. As he was unable to pay the fine, he was committed to jail for thirty days.

Alma Hansen, Union, found guilty in the Elizabeth district court of practicing medicine without a license; held herself out as a specialist in the treatment of rheumatism, lumbago and neuritis; refused to pay the fine and was committed to jail for one day.

Richard Van Rumpt, naturopath, held himself out as being able to eradicate asthma, hay-fever and catarrh, pleaded guilty in the Passiac district court to a charge of practicing medicine without a license and paid the fine.

Alpha Roy Carpenter, Westville, paid the fine for practicing medicine without a license.

Cometis DeYoung, licensed osteopath, pleaded guilty in the Passaic district court to a charge of practicing medicine without a license; he refused to pay the fine and was committed to jail for thirty days; he gave electric treatments.

Bartholomew A. Albini, druggist of Hoboken, pleaded guilty to a charge of practicing medicine without a license and paid the fine.

George Lezenby, Jr., naturopath, Atlantic City, pleaded guilty to a charge of practicing medicine without a license and paid the fine.

Angelo Battaglia, Atlantic City, found guilty of practicing medicine without a license.

NEW YORK

Hospital News. — A five story psychiatric unit, costing $600,000, was recently completed in Westchester County. It has eighty-two beds for mental patients, and will be in charge of Dr. Claude W. Munger, director, Grasslands Hospital, Valhalla.

Illegitimate Births.—According to the state health department, during the period 1924-1928 the rate of illegitimate births in the state, exclusive of New York City, was 16 per thousand living births. The rate for negroes (68) was more than four times that for the white population (15), while the rate for native-born white persons (18.1) was more than three times the corresponding figure for foreign born (6). Among the latter the highest proportion (17) was among Canadians and the lowest among Italians (1.6).

Society News.—"The Value of Vaccine and Antipneumococcic Serum in the Treatment of Pneumonia" was the subject of Dr. William H. Park, director, bureau of laboratories, New York City Department of Health, before the Medical Society of the County of Albany, April 30.——The twenty-fourth annual session of the Women's Medical Society of New York State will be held in Rochester at the Hotel Seneca, June 2. A special feature of the meeting will be a medical historical pageant.

Chest Clinics. — The division of tuberculosis of the state department of health, in 1929, examined 5,437 patients at chest clinics, of whom 573, or 10.5 per cent, were found positive for tuberculosis. Only 37 per cent had been reported as having tuberculosis prior to the examination. Sixty-four per cent of the group were classified as being under observation, the majority of these being so designated because they gave a history of contact with a patient whose sputum was positive and needed a periodic check-up. Fifty-three per cent of all patients examined who were classified as "suspicious" were under 20 years of age.

NORTH CAROLINA

State Medical Election.—At the annual meeting of the Medical Society of the State of North Carolina at Pinehurst, April 28-30, Dr. John G. Murphy, Wilmington, was made president, and Dr. Martin L. Stevens, Asheville, president elect; Dr. Lewis B. McBrayer, Southern Pines, was reelected secretary. The next annual session of the society will be held in Durham, April 20-22, 1931.

RHODE ISLAND

Society News.—The Rhode Island Medical Society was addressed, recently, by Drs. Alvan L. Barach, New York, on "Use of Oxygen in Treatment of Pneumonia," and Russell L. Cecil, New York, "Serum Treatment of Pneumonia." —— Dr. Samuel Morein, Providence, addressed the Providence Medical Association, recently, on "Clinical Observation in Diagnosis and Prognosis of Jaundice," and Dr. William B. Castle, Boston, "Relation of Achylia Gastrica to the Causation of Pernicious Anemia"; the association was addressed, April 7, among others, by Dr. Robert R. Baldridge, Providence, on "New Infusion Treatment of Shock."

TENNESSEE

Society News. — Dr. Leonard E. Ragsdale, Donaldson, addressed the Social Hygiene Association of Tennessee, April 14, on "Mental Defectiveness in Relation to Prostitution."—— A recent check-up of the alumni of Vanderbilt University shows that of 12,896 living graduates, 4,308 are practicing medicine.

Personal. — Dr. Clarence B. A. Turner has resigned as director of the Obion County Health Unit on account of illness. —— Dr. Andrew F. Richards, director of the Knox County Health Unit since its establishment in July, 1928, has resigned to become associate director of state health units. Dr. Richards has been succeeded by Dr. Amos G. Hufstedler.

Health at Memphis. — Telegraphic reports to the U. S. Department of Commerce from sixty-four cities with a total population of 29 million, for the week ended May 3, indicate that the highest mortality rate (25.8) was for Memphis, and the mortality rate for the group of cities as a whole was 13.7. The mortality rate for Memphis for the corresponding week last year was 17.5 and for the group of cities, 12.6. The annual rate for sixty-four cities was 13.9 for the eighteen weeks of 1930, as against a rate of 15.4 for the corresponding weeks of 1929. Caution should be used in the interpretation of these weekly figures, as they fluctuate widely. The fact that some cities are hospital centers for large areas outside the city limits or that they have a large negro population may tend to increase the death rate.

Physicians Decrease—Population Increases.—According to the state department of health, there were 2,997 physicians practicing in Tennessee in 1929, and the population was estimated at 2,487,632. This gives a ratio of 1.2 physicians per thousand of population, or one physician for each 830 persons. In 1927, there were 3,016 physicians in the state and a population of 2,452,700, or a ratio of 1.23 physicians per thousand of population or one physician for every 814 persons. In the two years the actual number of physicians in the state decreased by only nineteen and the population increased almost 35,000. The state department says that if this condition were to continue, a shortage of physicians could readily occur, but as facilities for transportation and communication have increased, as well as efficiency of the profession as a result of better training and better equipment, each physician might now well serve a much larger number of people than a few years ago.

TEXAS

Society News.—The first five day conference attempted by the Dallas Southern Clinical Society was held, April 14-18, at Dallas; a total registration of 1,012 was reached. Among the guest speakers were Drs. Logan Clendening, Kansas City, Mo., George W. Crile, Cleveland; Vilray P. Blair, St. Louis; Francis M. Pottenger, Monrovia, Calif.; Frank Hinman, San Francisco; John L. Morse, Boston; Charles L. Scudder, Boston; John F. Barnhill, Indianapolis; Otto H. Schwarz, St. Louis; Cyrus C. Sturgis, Ann Arbor, Mich., and Alexander B. Moore, Rochester, Minn. Six different subjects were presented in moving pictures and several with "talkies." Dr. James M. Martin was elected president for the ensuing year, and Dr. Gilbert E. Brereton, Dallas, secretary.

UTAH

Licenses Revoked.—The license to practice medicine of Dr. Wiley M. Cragun was revoked, March 6, by the State of Utah Department of Registration on the charge of offering or attempting to procure a criminal abortion. Dr. William B. Hamilton's license was also revoked at the same time on the charge of procuring a fee through the assurance that a manifestly incurable diseased condition of the mind or body could be permanently cured.

Society News.—The Carbon County Medical Society was addressed at Price, recently, by Drs. Howard W. Fleming and

George W. Pierce, San Francisco, on "Treatment of Head Injuries" and "Treatment of Hand Injuries," respectively.—— A recent meeting of the Utah County Medical Society was addressed by Dr. Lewis W. Oaks, Provo, on "Review of Clinical and Therapeutic Features of the Ear, Nose and Throat Practice of Interest to the General Practitioner."——Dr. Ray T. Woolsey addressed the Salt Lake County Medical Society, February 10, on "Conservative Treatment of Abortion."

VIRGINIA

Society News.—The Patrick-Henry Medical Society was addressed at Martinsville, April 3, by Drs. John A. Shackelford and Gustave B. Dudley, Jr., on "Special Type of Influenza Puerperal Sepsis" and "Relation of the Eye to General Diseases," respectively.——Dr. Harry H. Ware, Jr., Richmond, gave a demonstration of prenatal examination and care in obstetrics before the April 15 meeting of the Mecklenburg County Medical Society; papers were presented by Drs. William W. Wilkinson, La Crosse, on "Eclampsia"; James Allison Hodges, Richmond, "Neuropsychic Cases," and Carrington Williams, Richmond, "Early Symptoms of Cancer."—— Dr. Charles F. McCuskey, Rochester, Minn., will address the Roanoke Academy of Medicine, May 23, on "Anesthesia."—— Drs. James C. Flippin and Lawrence T. Royster, University, addressed the Clinch Valley Medical Society at Richlands, April 26, on "Pneumonia and Its Complications" and "Digestive Disorders of Childhood," respectively.—— The Cabell County Medical Society was addressed, recently, by Dr. Fletcher D. Woodward, Charlottesville, on "Foreign Bodies in the Air and Food Passages."

WISCONSIN

Hospital News.—The new $175,000 Riverview Tuberculosis Sanatorium was opened at Little Chute, recently; it accommodates about seventy patients.—— The new $150,000 addition to St. Nicholas' Hospital was recently opened at Sheboygan.

Personal.—Dr. Walter P. McGrath, Menasha, has been named health officer for that city.——Drs. Samuel Herman Lippitt and Karl E. Kassowitz have been named associate professors of clinical medicine at the Marquette University School of Medicine, Milwaukee, and Dr. Samuel E. Kohn has been appointed clinical instructor.——Dr. Gustav J. Hildebrand has been elected health officer of Sheboygan, succeeding Dr. Lucien Treadway, resigned.

Milwaukee Wins Health Contest.—It was officially announced, April 16, that Milwaukee had won the national health contest, conducted by the U. S. Chamber of Commerce and the American Public Health Association. According to the *Bulletin* of the Medical Society of Milwaukee County, the society has been especially active during the past few months in the prevention of diphtheria and in the reduction of Milwaukee's infant mortality rate. In the first quarter of 1929 eighty-five cases of diphtheria were reported with ten deaths; the infant deaths numbered 287. In the corresponding period this year sixty-six cases of diphtheria were reported, with seven deaths, and the infant deaths totaled 211. The tuberculosis death rate was 64 per hundred thousand of population. None of the eleven patients who contracted smallpox in Milwaukee in 1929 had ever been vaccinated, and of the 284 cases of diphtheria reported during the year, 106 occurred among children under 6 years of age, which is the age group not reached by the school immunization program.

Society News.—Six public health nurses, a dentist, an eye, ear, nose and throat specialist and several physicians began a program of health work among the Indians at Odanah and Redcliff, April 22, under the direction of the state board of health.——Dr. Alice Hamilton, Boston, addressed the University of Wisconsin Medical Society, Madison, May 1, on "Recent Problems in Industrial Medicine."—— The Brown-Kewaunee County Medical Society was addressed, April 22, by Dr. Robert D. Mussey, Rochester, Minn., on "Early Recognition, Prevention and Treatment of Preeclamptic Toxemia."——"What Shall Be the Future Policies of the State Society" was the subject of Mr. J. G. Crownhart, Madison, secretary of the state society, before the Calumet County Medical Society, April 22.——A symposium on jaundice was presented before the Dane County Medical Society, Madison, April 15, by Drs. John E. Gonce, Jr., Ray C. Blankinship, Joseph W. Gale and Prof. Walter J. Meek, Ph.D.——The dentists of the Eau Claire district were guests of the Eau Claire and Associated Counties Medical Society, recently; the speakers were Drs. Boyd S. Gardner, and Walter Lillie, both of Rochester, Minn., on "Interdependence of Medicine and Dentistry" and "Retrobulbar Neuritis and Optic Neuritis," respectively.——The Marinette-Florence County Medical Society was addressed, April 22, by Drs. John W. Harris and Arthur A. Pleyte on "Present Status of Puerperal Infection" and "Childhood Tuberculosis," respectively.—— Dr. James T. Case, Chicago, addressed the Medical Society of Milwaukee County and the Milwaukee Roentgen Ray Society, April 11, on "Acute and Chronic Intestinal Obstructions as Seen Radiologically."——The Milwaukee Academy of Medicine was addressed, April 8, by Drs. Forrester Raine and John L. Yates on "Uses of Blood Transfusion" and "Structure and Function of Lung with Reference to Treatment of Intrathoracic Diseases," respectively.——The Medical Society of Milwaukee County was recently addressed by Marvin H. Creager, managing editor of the Milwaukee *Journal*, on "The Journalist Looks at Medicine," and by Dr. Gilbert E. Seaman, on "The Doctor Looks at Journalism."——Among others, Dr. Merle Q. Howard, Wauwatosa, addressed a joint meeting of the Milwaukee Academy of Medicine and the Milwaukee Neuro-Psychiatric Society, May 13, on pellagra.

GENERAL

Society News.—At the annual meeting of the American Association of Anatomists, April 18, Dr. Herbert M. Evans, Berkeley, Calif., was installed as president, and Edgar Allen, Ph.D., Columbia, Mo., president elect; Dr. George W. Corner, Rochester, N. Y., was made secretary. The next annual session will be held in Chicago, April 2-4, 1931.——A syllabus of lectures on obstetrics for nurses has been prepared by a committee appointed by the American Gynecological Society and is now ready for distribution to those interested in the subject of nurse training. Copies may be obtained on request from the chairman of the committee, 23 East Ninety-Third Street, New York. The price is 50 cents.

Sight-Saving Classes Increase.—An increase of forty-five "sight-saving classes" within the last year is noted in the report of the National Society for the Prevention of Blindness. There are now 350 of these classes for the education of children with seriously defective vision in ninety-five cities of twenty-one states. Through the use of large type books, movable desks, ideal lighting and special teaching methods, children with little vision are not only given the same sort of education that children with full vision receive but they are taught how to conserve their remaining sight. Special courses to train teachers are planned this summer at Columbia University, the University of Chicago, the University of Cincinnati and the State Teachers' College in Buffalo. In addition to cooperating with the federal trachoma clinic at Rolla, Mo., during 1929, the society assisted several other agencies in a study of the incidence of trachoma among Chippewa Indians of Minnesota.

John Phillips Memorial Prize Established.—The American College of Physicians has announced the John Phillips Memorial Prize of $1,500 to be awarded for the most meritorious contribution in internal medicine and in sciences contributing thereto. The thesis must be based on published or unpublished original work and mailed to the executive secretary of the college on or before Aug. 31, 1930; it must be in English, in triplicate, typewritten or printed, and the work on which it is based must have been done in whole or in part in the United States or Canada. The recipient of the prize would be expected to read the essay at the next annual meeting of the college. Announcement of the prize will be made not later than two months before the annual meeting; the college reserves the right to make no award of the prize if a sufficiently meritorious piece of work has not been received. It is a memorial to Dr. John Phillips, who lost his life in the Cleveland Clinic disaster last year. The executive secretary of the college is E. R. Loveland, 133-135 South Thirty-Sixth Street, Philadelphia.

Those Charming Solicitors.—Dr. Russell S. Galbreath, Huntington, Ind., writes that a man calling himself Dr. E. C. Judd called at his office for the purpose of repairing instruments. He was given some instruments which he repaired and returned to Dr. Galbreath with a bill for $4. "Dr." Judd was paid by check, which he raised to $40. He is said to have a charming personality. Dr. William F. Strangways, Little Rock, Ark., writes that a man by the name of Waite called on him soliciting for a uniform company of St. Louis. Dr. Strangways, who, gave him an order, paid him in full and received a receipt, writes that the company admits that Waite is its agent but will not fill the order on the ground that he has not remitted the money to them. Dr. Edward L. Cornell, Chicago, writes that a man telephoned representing himself to be from the police department and requesting a contribution of $10. When asked to whom the check should be made out,

he gave the name of W. E. Wright, 865 North Wells Street. The Chicago Intelligence Bureau said that this man was not connected with the police department. According to Dr. Otto E. Benell, Greeley, Colo., one V. Sandbothe, claiming to be a masseur, has been calling on physicians expressing his desire to cooperate with them. He asks for a small loan until he can get started in business. He then leaves town. This man was about 45 years of age, 5 feet 9 inches tall, light complexioned, wore glasses and had a Swedish accent.

Medical Bills in Congress.—S. 1721, providing for the retirement of acting assistant surgeons of the navy, has passed the Senate, without amendment. S. 4371, introduced by Senator Thomas, Oklahoma, proposes to authorize an appropriation of $500,000 to erect a veterans' hospital at Claremore, Oklahoma. H. R. 7884, proposing to prohibit experiments on living dogs in the District of Columbia, has been adversely reported to the House Committee on the District of Columbia by its subcommittee on public health. H. R. 7410, providing for the establishing of a hospital for defective delinquents, has passed the Senate, without amendment. H. R. 8574, proposing to transfer to the Attorney General certain functions in the administration of the National Prohibition Act, has been reported by the Senate Committee on the Judiciary, with amendments. H. R. 9235, authorizing the U. S. Public Health Service to provide medical service in the federal prisons, has passed the Senate, without amendment. H. R. 12169, introduced by Representative Langley, Kentucky, proposes to amend the Healing Arts Practice Act of the District of Columbia so as to provide that no applicant for a license to practice naturopathy shall be required to give the character and limits of the method of healing practiced by him as a naturopath. The bill would deny to the Commission on Licensure the right to limit the methods of healing to be practiced by naturopaths and proposes to define the term "naturopathy" to embrace the following acts: "diagnosis and practice of physiologic, mechanical and material sciences of healing as follows: the physiologic and mechanical sciences such as mechanotherapy, articular manipulation, corrective and orthopedic gymnastics, neurotherapy, psychotherapy, hydrotherapy, and mineral baths, electrotherapy, thermotherapy, phototherapy, chromotherapy, vibrotherapy, thalmotherapy, and dietetics, which shall include the use of foods of such biochemical tissue-building products and cell salts as are found in the normal body; and the use of vegetal oils and dehydrated and pulverized fruits, flowers, seeds, barks, herbs, roots, and vegetables uncompounded and used in their natural state."

LATIN AMERICA

Society News.—The eighth National Medical Congress will be held in Havana, Cuba, during the first fortnight of December. The congress will be divided into five sections: general medicine, general surgery, stomatology, pharmacy and veterinary medicine. The general secretary is Dr. Miguel A. Branly.

Personal.—Dr. Herbert Pieter, Santo Domingo City, has been appointed professor of clinical medicine to the faculty of Santo Domingo, Dominican Republic.

Sanitary Survey of Nicaragua.—The government of Nicaragua is cooperating with the medical corps of the U. S. Army in a sanitary survey of Nicaragua, Canal Zone. The prevalent diseases were found to be hookworm, amebic and bacillary dysentery and malaria. The work is being done to determine the character of the diseases now prevalent in selected areas, and, when practical in the field, treatment for curing the disease will be given. Seven hundred and fifty persons at San Carlos have been examined in connection with the hookworm investigation.

FOREIGN

Personal.—Vienna has decided to erect a monument to the late Prof. Clemens Pirquet. Hamburg has named a street after the late dermatologist Prof. Paul G. Unna.——An honorary life fellowship of the Ross Institute was recently bestowed on Rai G. C. Chatterjee Bahadur, Bengal, India, for his work in malaria control.

Society News.—The tenth session of the Medical Days of Brussels will be held, June 28, 29 and 30, and July 1 and 2, under the presidency of Prof. Jules Bordet. This year will be the centenary of the independence of Belgium. The secretary is Dr. R. Beckers, 62 rue Froissart, Brussels.——It was announced, May 2, that the Rockefeller Foundation had tendered a gift of $3,500,000 to University City, Paris, supplementing a previous gift of $2,000,000. The original gift was found insufficient after the plans were drawn, it was said.

Cancer Committee Established.—A consultative committee on cancer research, consisting of representatives of the University of Manchester and of the Manchester Committee on Cancer, including the Christie Hospital and the Radium Institute, has been established. The research work will be conducted in the university laboratories and will be directed and controlled by the consultative committee. Dr. Charles C. Twort, who has been working under the direction of the Manchester Committee on Cancer, has been appointed director of the department of cancer research.

Anniversary of Schaudinn's Discovery.—The Fritz Schaudinn Medal, in commemoration of the discoverer of *Spirochaeta pallida*, was awarded to three scientists for their outstanding work in microbiology. The awards were made, March 3, the twenty-fifth anniversary of the discovery of the micro-organism causing syphilis. The Tropeninstitut in Hamburg appointed an international committee of jurors. Profs. M. Hartmann, Berlin, F. d'Herelle, formerly of Paris and now at New Haven, Conn., and E. Reichenow, Hamburg, were the recipients.

CORRECTION

Dr. Irwin Was Not Married.—The report in THE JOURNAL, Dec. 21, 1929, of the marriage of Dr. Edward M. Irwin of Belleville, Ill., was erroneous. Dr. Irwin was not married.

Government Services

Dr. Durrett Returns as Drug Control Chief

Dr. James J. Durrett, who recently resigned his position as chief of drug control, Food and Drug Administration, U. S. Department of Agriculture, returned to his former position, April 23, it is announced. Dr. Durrett resigned to become state health officer of Alabama, but on arriving there, it is said, decided to withdraw his name for the appointment. Dr. Frederick J. Cullen, who succeeded Dr. Durrett as chief of drug control, suggested to officials that Dr. Durrett return to his position.

Change of Station in the Navy

The following changes of station in the navy have been announced: Lieut. Comdr. Charles H. Savage from the Navy Medical School, Washington, D. C., about July 24, to the navy station at St. Thomas, V. I.; Lieut. Marion J. Eaton from the second brigade, U. S. Marines, Nicaragua, to the navy hospital, Great Lakes, Ill.; Lieut. Lincoln Humphreys from the U. S. S. *Kittery* to the navy yard, Washington, D. C.; Lieut. Charles G. Terrell from the fifth regiment, U. S. Marines, Managua, Nicaragua, to the navy hospital, Parris Island, S. C.

U. S. Public Health Service

Surg. Allan J. McLaughlin has been directed to proceed from Chicago to Des Moines, Iowa, and such other places in Iowa as may be necessary for the purpose of cooperating with and aiding the state health authorities in improving and making more effective their rules and regulations for preventing the spread of communicable diseases.——Acting Asst. Surg. James R. Waugh has been relieved from duty at Seattle and assigned to duty at Hot Springs to establish headquarters there for duty in connection with the control of venereal diseases.——Acting Asst. Surg. James W. Levy, Jr., has been assigned to duty at Picher, Okla., in connection with venereal disease control measures.——Acting Asst. Surg. Frederick T. Foard, Jr., has been assigned to duty at Santa Barbara, Calif., in connection with studies of and demonstrations in rural sanitation.——The following promotions as surgeons in the regular corps have recently been announced: Lieuen M. Rogers, Henry A. Rasmussen, William Y. Hollingsworth and Octavius M. Spencer; the following appointments as assistant surgeons are also announced: Donald J. Hunt, Eddie Monroe Gordon, Jr., and Willard E. Kramer.

New Chief of Food Control

Ward B. White, director of the New York State Bureau of Chemistry, has accepted the position of chief of food control, Food and Drug Administration, U. S. Department of Agriculture, Washington, D. C., effective June 2. He has been with the state bureau of chemistry for the last twenty years, the last seven of which he has been director. He will fill the vacancy caused by the death of R. Wilfred Balcom, Ph.D.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 26, 1930.

A National Medical Service: Extension of Medical Socialism

The national health insurance act was a great step in medical socialism and in spite of its grave defects, medical socialism is being extended. Another great step is the systematic medical inspection and treatment of school children, and the child and maternity welfare schemes. The whole trend of legislation in recent years has been socialistic and a socialist government is now in power. The formation of the "Public Medical Service Association" to establish a medical service available to every person was reported in THE JOURNAL, March 22, p. 879. For a long time the British Medical Association has been studying this question, so as to bring the views of the profession to bear on the developments that must take place. The council of the association has now produced a scheme to provide a service available for every class and covering the whole field of preventive and curative medicine, which it presents to the public and of which it invites the fullest criticism. It claims that its scheme has the advantage which many schemes already submitted to the public lack—that it is in accordance with the beliefs and traditions of the medical profession and would have its whole-hearted support. For the prevention of disease it describes the agencies as the family physician (in educating and advising the public), the schools (in educating the children), the public health authorities (in propaganda and sanitary services). For the treatment of disease, the council holds that the medical service of the community must be based on the provision for every individual of a general practitioner or family physician. The growth of specialism has been enormous in the last half century, and the community is bound to encourage and use it wherever it is found to be economical. But the family physician is the foundation of any complete and efficient medical service, and the specialist is the complement to him and not a substitute for him. The tendency of the public to short-circuit the family physician is stated to be foolish and uneconomical, bad for the patient and bad for the profession. It is foolish because the average layman is incompetent to choose the specialist he ought to consult. He is wasting his money and the time of himself and of the specialist by going to him unprovided with the valuable information that the family physician could have given. A consultant service and all necessary special and auxiliary forms of diagnosis and treatment should be available for the patient, normally through the family physician. These services should include for diagnosis the help of pathologists, bacteriologists and roentgenologists; and, for treatment, nurses, midwives, masseurs, opticians, pharmacists, ambulances, hospitals and convalescent homes. Though the aim of the scheme is that every person can have access to a complete medical service, it is not intended that the service shall be wholly a state or subsidized service. To a considerable extent it must be subsidized if every person is to have access to it, but it is hoped that the service shall be, as it ought to be, largely self supporting. The council believes that the average citizen desires to pay directly, so far as possible, for a thing so peculiarly individual as medical attendance. Many will both desire and be able to pay for all medical service, institutional and noninstitutional. Others will be able to pay for domiciliary service and will get institutional service by a voluntary insurance scheme. A third group will get domiciliary service by national insurance and institutional by voluntary insurance. There will remain a fourth group for whom the whole service must be provided gratis. With regard to the first class, there can be no question of the intervention of the state or any public authority. With regard to the other classes, the interposition of any third party between the physician and the patient, so far as medical attendance is concerned, should be limited as much as possible. Such interference is bad for the physician and worse for the patient. In the control of the purely professional side of the service, the guaranteeing of its quality and the discipline of the physicians, as much responsibility as possible should be placed on the ordinary organized medical profession. The service of consultants and specialists should be open to all practitioners who satisfy one or more of the following criteria: (*a*) have held hospital or other appointments affording special opportunities for acquiring special skill and experience or have had recent practice in performing the services rendered; (*b*) have had special academic or postgraduate study of the subject and have had recent experience, and (*c*) are generally recognized by physicians in the area as having had special proficiency.

It must not be concluded that the production of this elaborate scheme is due to any desire of the medical profession or of the British Medical Association for the extension of medical socialism. The great step of the national insurance act was bitterly opposed by the profession and still is anathema to a section of it. The scheme outlined has been brought forward because the association regards this extension of medical socialism as inevitable and wants to be early in the field, so that the change shall be, as far as possible, on lines acceptable to the medical profession. The other schemes mentioned have not been brought forward with any corporate medical support or consultation with the profession. The few physicians responsible for them are socialists.

Congress of Ophthalmology

The Jubilee Congress of the Ophthalmological Society has been held. The Nettleship medal was presented to Miss Ida Mann for her investigations into the embryology of the eye. A most interesting event was the visit of the congress to the Zoological Gardens, where Miss Mann demonstrated the reptilian eye under the slit lamp. Among the reptiles examined were the gecko, the lizard and the python. Miss Mann pointed out that the arrangement of the vessels in the reptilian iris was fairly definite according to species, but pigmentation seemed to be fortuitous and not to be explicable. A reception was held at the Royal College of Surgeons, where there was a special display of old ophthalmologic instruments, microscopes and books. The president, Mr. Leslie Paton, delivered an address on the reflex factors controlling the position and movement of the eyes. He said that in man and other animals with frontally placed eyes and binocular vision the retinal stimuli played a prominent part in such control, but in lower types with laterally placed eyes other factors, such as reflex stimuli from the labyrinth and neck muscles, were prominent. These factors were present also in man but were not so easily made manifest, though, when their function was interfered with, signs and symptoms resulted which were of grave significance but difficult to interpret. Among the most important were vertigo, nystagmus and nausea or vomiting. Delegates from Austria, Belgium, France, Italy, Netherlands, Norway, Spain, Sweden and the United States congratulated the society on the attainment of its jubilee and presented an ivory presidential hammer inscribed in enamel.

VITAMIN A DEFICIENCY AND EYE DISEASES

Mr. E. Treacher Collins said that, when the diet was deficient in vitamin A, the mucus-secreting cells of the conjunctiva atrophied and keratinization followed. Keratinization might affect the ducts of the lacrimal and meibomian glands. In the absence of its mucous secretion the surface tension of the conjunctiva became altered, so that the fatty secretion of the

meibomian glands adhered to it and formed a favorable medium for microbes. The pathogenic ones excited inflammation, which in the cornea resulted in keratomalacia. Inability to see in dim light after exposure to a bright light, a common symptom in xerophthalmia, had been produced in rats by a diet deficient in vitamin A and was found to depend on delay in regeneration of the visual purple. In the dark-skinned races of man and animals, xerophthalmia was frequently accompanied by marked pigmentation of the conjunctiva.

TRANSPLANTATION OF THE CORNEA

Mr. J. W. Tudor Thomas gave a remarkable demonstration of experiments carried out at the Welsh National School of Medicine. The importance of finding a successful method of corneal grafting is that it opens up the possibility of restoring some sight to many now incurably blind. The grafts must be manipulated with great care and not grasped by forceps or other instruments. Olive oil should be used to lubricate any instrument that might come in contact with the graft, and the latter should be placed in sterile olive oil before placing it in the gap prepared for its reception. A cross-stitching operation gave the best results and was the only one by which he had obtained clear grafts. Four rabbits with clear corneal grafts (out of fourteen operated on) were demonstrated.

NIGHT BLINDNESS DUE TO VITAMIN DEFICIENCY

Dr. W. R. Aykroyd said that recurrent difficulty in adapting the eyes to dim light was due to vitamin deficiency. It occurred in association with a poor diet, was rapidly cured by cod liver oil or mammalian or bird's liver, and was often noted in conjunction with external eye conditions similar to those produced experimentally in vitamin-A deficient animals. In Newfoundland and Labrador he observed that in a series of cases of hemeralopia the diets were obviously deficient in vitamin A. In some cases the disease developed in less than a month after passing from a diet rich in to one poor in vitamin A. All the cases were cured in a day or two by two doses of cod liver oil. Two fishermen cured themselves by eating half a seagull's raw liver. Strong sunlight played a part in the causation; men exposed for long periods to sunshine in open boats were the chief sufferers. In women, hemeralopia was usually associated with pregnancy and tended to clear up spontaneously. Delay in regeneration of the visual purple would account for the clinical facts. Hippocrates was aware of the liver cure for night-blindness.

THE GENIUS OF SIR WILLIAM BOWMAN

Sir Arthur Keith delivered an eloquent address on Sir William Bowman. Before he was 25, Bowman had advanced medicine by a series of notable discoveries and in his full tide did more than any other man for ophthalmology. In 1842 he contributed at a single step our modern conception of the organization of renal structure. For his paper on the structure of muscle he was elected F.R.S. at 25. The ciliary muscle had no certain existence until he defined its relations, nature and functions. He detected the circular and radial musculature of the iris. He made a larger contribution to the anatomy of the eye than any other man. England was the recognized home of three great schools—the physiologic, the neurologic and the ophthalmologic.

Indian Boycott of British Drugs

The boycott of British drugs advocated as a retaliation to the withdrawal of recognition of Indian medical degrees by the General Medical Council (THE JOURNAL, April 12, p. 1156) has been carried out. On April 14, the Bengali new year, when it is accounted propitious to venture on new transactions and large purchases are made in the bazaar, the opportunity was taken by wholesalers to decline to buy British drugs. The campaign has been skilfully and silently worked up by physicians. The local Sat Narayan Piecegoods Association also resolved not to order foreign cloth for twelve months. The General Medical Council showed great patience in dealing with the Indian universities and endeavored by advice to help them remedy their defects in teaching. Its efforts were first opposed by the universities and then attacked by the nationalists, who represented them as disrespectful to the Indian universities. The council was compelled to withdraw recognition from Indian colleges in the absence of authoritative information respecting the medical qualifications and standards.

PARIS

(From Our Regular Correspondent)

April 9, 1930.

Forced Feeding and Medical Ethics

A woman who was the director of a large bank was arrested recently, soon after the announcement of the bank's failure, charged with swindling and fraudulent manipulations. She spent a year in jail awaiting trial and then decided, in order to secure her liberty, to refuse all food. As her physical condition became aggravated from day to day, the judge ordered her removed to the Hôpital Cochin, where she was placed in the department of Professor Achard, who subjected her to forced feeding. She resisted, continuing to argue, and the nurses had to coerce her by force. Her lawyer protested against the violent treatment she had received, and in an article in the daily press recalled the tortures of the middle ages. The judge finally granted her provisional liberty on furnishing $32,000 bail, which was supplied by her creditors. The question was raised by the general public as to the right of the physician to resort to force to prevent suicide. Professor Achard, who is general secretary of the Academy of Medicine, brought up the question before that body, in order to arouse a debate among his colleagues as to the justification of his action. He explained the motives that induced him to employ force to prevent the prisoner from dying of hunger. Achard held that the case of persons who attempt suicide by refusing food is parallel to that of other suicides in the hospital. The physician has the right and duty to intervene in either case, and he will employ, if necessary, physical constraint. Conscience also justifies it. It is the duty of humanity to preserve life. Despairing souls will no doubt be happy later that their lives were saved. Furthermore, suicide is antisocial and society has the right to seize its members who are trying to escape. The physician goes ahead and does his duty, which is to protect human life. Professor Achard was indignant at the charges of an uninformed public that accused him of being a torturer. He suggested that a paragraph dealing with the duties of the physician toward "hunger strikers" be incorporated in the code of medical ethics. He remarked that the code should clarify the conscience and not enchain it. His argument was applauded by a large part of the assembly. It awakened surprise when Mr. Quénu, who was president of the academy last year, supported quite contrary views. He contended that the physician ought not to resort to violence in dealing with a person of sound mind who refuses proffered treatment and even food. He cited an instance in which a patient died as the result of her refusal to be operated on for strangulated hernia. Quénu does not think that he should have anesthetized the patient and performed the operation against her will. He said further that the straight-jacket and the esophageal sound are forms of violence worse than an operative act. Hence, he would not have fed the prisoner entrusted to Professor Achard. Other members of the academy endeavored to establish a mean between these opinions. Mr. Labbé said he had saved the life of a psychopath who had deprived himself of food for forty-two days. M. Chauffard, who distinguished between persons who are possessed and persons

who are acting on an impulse, concluded it was a physician's duty to save by force, if necessary, all patients. But he regarded the case of the imprisoned financier as an attempt to defeat justice and he would not have fed her. In the face of so many divergent opinions, no definitive conclusion could be drawn from the discussion, for the present.

Reorganizing the Colonial Sanitary Program

Necessity has finally brought about the adoption of a uniform plan of sanitary organization for the colonies, many of which are decimated by epidemics. In Senegal, yellow fever is prevalent, and in the Territory of the Niger cerebrospinal meningitis is rampant. French Equatorial Africa is severely affected by trypanosomiasis and by venereal diseases, while infant mortality has reached 50 per cent, and, some years, 75 per cent, of the births. The country has gradually become so depopulated that it has been necessary to import Indo-Chinese workmen to continue the construction of the railway from Brazzaville to the coast. The situation is equally serious in Madagascar and in Indo-China. Hygiene appears more and more to be the indispensable factor in every enterprise of colonization. For that purpose, more physicians, both European and native, are needed, but the colonial administrations lack a sufficient number of the former because they cannot offer them adequate compensation, and of the latter there are not a sufficient number receiving the necessary education. The beginning salary of the physician who was willing to enter the colonial service has been only 17,000 francs ($680) and could not be advanced beyond 42,000 francs ($1,680). It has been increased to 33,000 francs ($1,320) and will be increased still further. The situation still falls far short of that of physicians in the Belgian Congo, whose initial salary is 84,000 francs ($3,360) and may be advanced to 150,000 francs ($6,000). The improvement, however, is sufficient to justify the hope that more physicians will enter the colonial service. In the meantime the colonial ministry has been able to compensate partially for the dearth of candidates by accepting the services of some foreign physicians, selected from among immigrants who are not authorized to practice their profession in France. These practitioners, already accustomed to long journeys, usually give evidence of an activity and a devotion that are praiseworthy. As for the improvement desired in the number and preparation of native physicians, a strong effort is being made to develop the quality of public instruction. At Tananarive a school will be opened soon in which students will complete their first three years of study, while the preparatory school that already exists will continue to function; it is patterned on the model of the school at Pondicherry. A similar school will be opened at Fort-de-France, Martinique, to serve the population of Guiana, Guadeloupe and Martinique. Another school to be located at Brazzaville will duplicate for French Equatorial Africa the work of the school at Dakar. Another school will be organized at Duala, which will serve French Cameroons and French Togo. The school at Hanoi will be made a faculty of medicine for the preparation of Indo-Chinese students for the degree of doctor of medicine, which will give evidence of their having specialized in diseases of the Far East. The authorities will avoid doing anything that will attract them to Paris, where they would contribute to the overcrowding of the medical profession and become initiated in the teachings of bolshevism. For Africa, the creation of a body of hygienists with two years of technical training is being considered. A few European physicians would be in charge of the native "hygienists." They would be supplemented by crews of native visiting nurses, the training of whom will be entrusted to Red Cross societies or to selected graduates of schools of social service. Furthermore, the transformation of the school of medicine in Marseilles into a faculty of medicine will make possible the development of instruction in colonial medicine. Marseilles has a school of tropical medicine, but it is more on the military order. Its hospital has services only for the soldiers. The immense hospitals of the city of Marseilles, in which 25 per cent of the patients are foreigners from the Orient and from Africa, are to be transformed into centers of instruction for the faculty of medicine, and will furnish future colonial physicians rich material for study.

BUDAPEST

(From Our Regular Correspondent)

April 16, 1930.

Icterus Caused by Baked Pumpkin

In some regions of Hungary, in the winter period, when the fruit season is over, the only dessert of poor people is baked pumpkin. Many of those who use this dessert complain of jaundice, although their general health is not impaired. Of course, they fail to mention the consumption of baked pumpkin, not suspecting that this may be the cause of their being yellow. The jaundice, which is not as great as in those suffering from total obstruction, is suggestive of a mild hemolytic icterus, and it is most evident on the palms and the soles. A characteristic of this kind of jaundice is that the bilirubin values of the blood serum remain normal, there is no bile in the urine, and disturbance of bile secretion cannot be verified. Some days after the consumption of pumpkin is given up, the jaundice ceases. According to Dr. Gyula Janossy, clinical assistant at the University of Debretzin, there is a causal connection between this kind of jaundice and the consumption of pumpkin. The intensive yellow coloring matter in pumpkin is absorbed from the intestinal tract into the blood stream and colors the tissues. The coloring matter of pumpkin has the greatest affinity for the epithelial tissues of the skin, and therefore dyes most intensively those parts in which the epithelial layer is thickest; i. e., the palms and the soles. Although the disease is mild, it is important to know about this form of jaundice, lest some serious form of jaundice be diagnosed.

Graduate Medical Teaching

Until 1904, graduate medical teaching in Hungary consisted of the two weeks summer holiday course, the lectures being held by the professors of the Budapest and Kolozsvar universities. From 1883 to 1908 more than 1,000 physicians took these courses. The development of medical science demanded that every practitioner refresh his knowledge at least once in several years. With this in mind, Prof. Emile Grosz proposed in 1908 to the minister of public instruction that a central commission be founded and a first rate medical periodical be established. The committee was formed and in twenty years instructed more than 4,000 qualified physicians. The committee organized graduate courses, lasting for two weeks, on every subject, and also practical courses, lasting for four weeks, in the clinical branches. Physicians taking these courses were allotted state subsidies for the duration of the courses. Special courses were held for magistrate and for panel physicians. During the war, special courses were held on war surgery and on epidemic and infectious diseases. After the war, courses for teaching the protection of infants and mothers, industrial diseases, the pneumothorax treatment of tuberculosis, venereal diseases and trachoma, and in later years social hygiene were added. The committee issued a monthly 160 page periodical under the title *Orvoskepzes,* which, since its foundation, has published 1,048 articles.

The graduate teaching is gratuitous for all native physicians, while foreigners pay a nominal fee. The committee performs its work without any monetary compensation, just like the lecturers, who are paid only nominal fees, intended for their assistants, nurses and servants. According to Professor Grosz,

president of the committee, the 1930 postgraduate courses will comprise one week courses on new therapeutic methods, physical therapeutics and tuberculosis; a ten day course on industrial diseases; two weeks courses on infant and mother protection and social hygiene; several four weeks clinical courses and three months in obstetrics.

The Treatment of Sterility

At a meeting, March 8, of the Budapest Royal Medical Society, Prof. Josef Frigyesi emphasized the importance of the question of sterility because of the great increase in sterile marriages. Two methods which aid in diagnosing the permeability of the tubes are pertubation, that is, blowing through the tubes, and the filling of them with opaque matter to render possible accurate roentgenograms. Both these methods are valuable, although the dangers with which they are connected must be considered. Both methods require skill. He emphasized also the inefficacy of salpingostomy, an operation in general use. According to Professor Frigyesi, more efficacious than any of the methods mentioned is the transplantation of the permeable parts of the tubes into the uterine cavity. The newer examining methods and operations have placed the treatment of sterility on new ground. The selection of cases requires great experience and skill. The discussion of conditions with married couples needs much tact, and the prospects of operative results must be carefully presented.

Hemorrhages in Poisoning from Drinking Solutions of Sodium Hydroxide

One of the most frequent intoxications in Hungary is caused by drinking solutions of sodium hydroxide, especially in children. Caustic soda, which is generally used for household washing, can be had from all grocers. Women dissolve it in drinking glasses before putting it in the wash tub; they do not pour the whole content of the glass in the tub at once. As they occasionally have to interrupt washing, to run to the kitchen to see to the fire or the cooking, or to the well for another pail of water, the children playing in the yard drink from the glass, which looks like water. Thus in former times and even at present, the vital statistic show a relatively great number of caustic soda intoxications. Of the complications, fatal hemorrhage is regarded as rare. According to Dr. A. Gaal, out of eighty-five necropsies following caustic soda intoxication, death due to hemorrhage was seen in five cases. The hemorrhage ensued in five hours, twelve hours, six days and eight days subsequent to the accident. The deadly hemorrhages were in two cases from the esophagus and the stomach, and in one case from the aorta; in one case the spleen was ruptured; in another case hemorrhagic foci were in the lungs.

NETHERLANDS

(From Our Regular Correspondent)

March 31, 1930.

Ancylostomiasis in Surinam

At the instance of physicians of the Rockefeller Institute, a crusade against ancylostomiasis has been begun at Surinam. The prophylactic measures were confined to the examination of the stools of Asiatic immigrants at first, but later all who showed the slightest symptoms of ancylostomiasis were treated. Nothing has been done yet for the systematic treatment of the coolie population. When many subjects with 80 per cent hemoglobin are found, one may be assured that the crusade against ancylostomiasis is not being vigorously prosecuted. However, the low hemoglobin must not be ascribed exclusively to ancylostomiasis for it may be due to malaria. Nevertheless, in the examination of the stools of subjects, it was found that more than 90 per cent contained ova of parasites. With the means at hand, it is impossible for the physician to combat the disease.

Indemnification for Time Lost on Account of Rheumatism

The Netherlands society for combating rheumatism secured a statement from the Rijksverzekeringsbank in regard to sums placed at the disposal of the administration for the indemnification of rheumatism sufferers and for the prevention of invalidism due to rheumatism. A benefit is accorded by virtue of section 71 of the law. From 1923 to 1926, treatment for acute articular rheumatism was given in 937 cases. The total expenditures amounted to about $536,800.

In addition, from 1920 to 1924, by virtue of sections 99 and 100 of the law pertaining to disability, the following sums were expended:

	No. of Cases	Amount Expended	Average Expense per Case
TUBERCULOSIS			
Men	3,779	$1,135,528	$300
Women	3,278	1,070,216	326
Total...	7,057	$2,205,744	$312
RHEUMATISM			
Men	80	$ 9,765	$122
Women	52	11,426	219
Total...	132	$ 21,191	$160
OTHER DISEASES			
Men	5,565	$1,355,241	$243
Women	4,997	1,342,204	268
Total...	10,562	$2,697,445	$255

Organization of Medical Control

The committee appointed by the seventy-sixth assembly of the Nederlandsche Maatschappij tot Bevordering der Geneeskunde, to study the question of medical control, has turned in a report.

With the increasing development of social medicine (accidents, occupational diseases, and the organization of industrial medicine), medical control is becoming necessary and it is of primary importance that its organization be perfected.

These are the principal points that the commission passed on:

Medical control is necessary because treatment and control are, in the nature of the case, separate matters.

Medical control cannot be properly exercised other than by physicians. Lay control serves only for the examination of administrative claims.

Supervision of the social insurance law should not be confused with other medicosocial powers.

In the exercise of the control of the social insurance law, specialization is required.

For the laws pertaining to occupational accidents, surgical specialists are needed, acting preferably in an official capacity.

In the control of persons who have suffered accidents, the attending physician can be controlled only by a surgical specialist. The control of treatment cannot be dispensed with.

For the laws pertaining to diseases and invalidity, officials are absolutely needed.

The control physicians to be appointed should have previously practiced general medicine. Furthermore, they should have received special preparation for the performance of their duties as controller.

As regards the control fees, their amount should be determined as far as possible by the number of insured and according to a fixed tariff. Regulation of fees in accordance with a contract applies solely to cases of accident.

The control physician should have some knowledge of jurisprudence.

In the exercise of control, the system that provides control of each patient should have preference over a system that checks up on a certain percentage of the cases. It is desirable that the control should extend from the beginning to the end of the disease; that is, until the patient's complete recovery.

Without the aid of the attending physician, it is impossible to carry out medical control in a satisfactory manner. There must be a good understanding between the attending physician and the control physician.

Any differences that may arise in connection with the control should be composed by a medical court of arbitration.

Difficulties arising between colleagues should be settled by a judgment rendered by physicians.

Decline of Infant Mortality

The annual report for 1928 of the inspection of the hygiene of childhood and of the crusade against tuberculosis reveals that the percentage of mortality of the new-born declined from 5.87 in 1927 to 5.24 in 1928. It contains figures for the various provinces of the Netherlands. The number of still-born, the report states, can be reduced only by better prenatal care. With this object in view, centers for the protection of nurslings and for the education of mothers will be established.

With regard to the crusade against tuberculosis, the report shows that the mortality due to tuberculosis is increasing slightly in all the industrial cities, except Eindhoven.

The statistics show that of 26,251 persons who presented themselves at the district consultation centers, 53 per cent were affected with tuberculosis. Tables are given showing the distribution of appropriated funds and the results of the treatment of patients in 1928.

BERLIN

(From Our Regular Correspondent)

April 14, 1930.

Official Cancer Statistics

The Prussian Bureau of Statistics reports that 185,600 persons died of cancer in Prussia during the period 1923-1927 (81,200 men, 104,400 women). In 129,500 persons (66,800 men, 62,700 women), the digestive organs were the seat of the disorder. In 15 per cent, or 26,700, the reproductive organs were involved; in 3 per cent, or 5,700, the respiratory organs; in 2 per cent, or 3,975, the urinary organs, and in 1 per cent, or only 1,990, the external covering of the body was affected. The organs of sense, the nerves, the bones and the joints were involved in only about 2 per cent of the cases. Three per cent of the cases were abdominal cancer, without specification of the abdominal organ affected. From 4 to 5 per cent of all cancer death reports contained no reference to the seat of the fatal disease. Thus, the abdomen, its organs, and the afferent and efferent paths, were predominantly (more than nine tenths) the seat of fatal cancer disorders. Whereas the number of deaths of the female sex with involvement of the digestive organs was about 6 per cent below that of the male sex, and in cancer of the respiratory organs was a little below, and in cancer of the urinary organs was only a trifle more than two fifths of that of the male sex, in cancer of the reproductive organs the women presented about fifteen times as many fatal cases as the men. Also in cancer of the external covering of the body and in other parts of the organism, the percentage of cases in women was considerably higher than in men.

Instructing the Public About Cancer

The German central commission for the combating of cancer, in view of the unfavorable reports on cancer mortality, decided to stage a drama that would enlighten the people as to the nature and treatment of cancer. The drama, which was entitled "The Tragedy of the Physician," was presented, March 2, in the Staatliches Schauspielhaus in Berlin, by the Deutsche Bühne für Volkshygiene (Kassel). The play was attended by the federal minister of the interior, cancer specialists, members of the faculty of medicine, representatives of the medical organizations and many physicians, with their wives. In his introductory remarks, Prof. F. Kraus, the chairman of the central commission, explained the importance of the movement. He pointed out that, with the support of the authoritative circles, the stage had been made to serve hygienic teaching. It could not be too strongly emphasized that with early diagnosis the prospects of successful treatment are greatly increased. The basic need is that the public shall be informed concerning the disease. In a drama in which physicians and laymen take various rôles, the most important points connected with an understanding of cancer are discussed. The fate of a patient is depicted who, for lack of knowledge and impelled by feelings of false modesty, fails to summon medical aid while there was yet time. It may be said that, while the endeavors of the promoters of the play must be approved, from the dramatic point of view (for instance, it would have been possible to present a play with actual dramatic interest without undue emphasis of the didactic features), the presentation was found wanting.

Proposed Changes in the Vaccination Law

The federal health council holds the view that a rigorous vaccination law is needed by the German people. In view of the newer knowledge gained from research on smallpox and vaccination, the council recommends considerable easement in the application of the regulations. Thus, before vaccination is undertaken, it must be ascertained whether or not the subject can be vaccinated without danger to himself or to persons in his environment. The physician should question the subject's family with regard to the general health of the subject and the members of his family, and should inquire into the following: Are there any transmissible diseases in the family? Has the subject any skin eruptions? Have any unvaccinated children skin eruptions or are there any purulent or rosaceous inflammations in other persons in the same residential environment? Has any member of the family ever been affected with a disorder of the central nervous system? Persons subject to vaccination should be inspected before the inoculation and, if desirable, should be examined as to the presence of diseases which may be unfavorably influenced by vaccination or which may influence unfavorably the course of the vaccination. Under this head may be mentioned skin eruptions, rhagades, otorrhea, marked glandular swellings, blepharitis, corneitis, rachitis and disorders of the central nervous system. Persons subject to vaccination who are affected with diseases that impair nutrition should be exempted from vaccination during the duration of this condition. This applies to children who have eczema, psoriasis, impetigo contagiosa, chafing, blepharitis, corneitis, otorrhea, suppurative inflammations of the skin or who show a tendency to cramps or to hemorrhages. Children should be exempted from vaccination if (and so long as) there are unvaccinated children in the immediate environment who have eczema, or persons with suppurative or rosaceous inflammations. Persons who have been affected with acute, infectious inflammatory diseases of the central nervous system or who show traces of such diseases, or the members of whose family have been affected with such diseases, should be exempted from vaccination for at least one year. The vaccinating physician may grant a postponement of vaccination for one year if such a physical or psychic predisposition obtains in the family of the person as would justify the fear that the vaccination might take an abnormal course or cause some other injury to the subject. In case the chief authorities of a state or province announce that an epidemic of smallpox is threatening, the special regulations of each state or province concerning the mode of performing vaccinations go into effect. Persistent objections on the part of parents to vaccination may create conditions that will have to be given consideration. The federal health council regards the application of vaccination by force as contraindicated. The council also favored the granting of indemnification in the presence of proved vaccination injuries.

Marriages

ROBERT W. FISHER to Mrs. Anna C. Jeffries, both of Morgantown, W. Va., in Cumberland, Md., March 31.

W. HARDING KNEEDLER to Miss Christina Butler Harris, both of Chestnut Hill, Pa., April 30.

J. WHITRIDGE WILLIAMS to Mrs. C. DeW. Theobald Pennington, both of Baltimore, April 30.

JOSEPH C. YASKIN to Adalyn Schoenfeld, both of Philadelphia, March 25.

FLOYD J. BARKMAN to Miss Agnes Jess, both of Calumet, Mich., May 2.

Deaths

Guy Lincoln Kiefer ⊕ Lansing, Mich., state health commissioner since 1927 and health commissioner of Detroit, 1901-1913, died, May 8, of angina pectoris. Dr. Kiefer was born in Detroit in 1867. He graduated from the University of Michigan in 1887, obtained an A.M. and M.D. in 1891 and in 1911 an honorary D.P.H. He began practice in 1893, serving as county physician of Wayne County in 1895-1896 and city physician of Detroit in 1897 and 1898. In 1913 he was appointed professor of preventive medicine and public health in the Detroit College of Medicine and Surgery and served as chairman of the Section on Preventive Medicine and Public Health of the American Medical Association; in 1924 he was vice chairman of the Section on Public Health Administration of the American Public Health Association. He was president of the Michigan State Medical Society and the Wayne County Medical Society. Dr. Kiefer was appointed a member of the state board of health in 1916, and with the reorganization of that department in 1920 was made president of the advisory council of the state health department. He was chief of staff of the Herman Kiefer Hospital, which was named for his father and built while he was city health commissioner, consulting physician on contagious diseases at the Harper and Children's Free hospitals and consulting physician on internal medicine and public health at the Woman's Hospital. While Dr. Kiefer was health commissioner of Detroit, he instituted a system of medical school service, organized a nursing division and established prenatal and child welfare clinics. He was a high type of public health officer and a staunch friend of the medical practitioner.

Henry M. Wheeler ⊕ Grand Forks, N. D.; University of Michigan Medical School, Ann Arbor, 1877; Medical Department of Columbia College, New York, 1880; member of the American College of Surgeons; past president of the North Dakota State Medical Association; formerly lecturer on surgery, University of North Dakota School of Medicine; at one time secretary of the state board of medical examiners; formerly member of the city council and mayor; aged 75; died, April 14, of heart disease.

Elmer Ellsworth Henderson ⊕ Chicago; Rush Medical College, Chicago, 1896; member of the American College of Surgeons; formerly clinical professor of surgery, Loyola University School of Medicine, professor of clinical surgery, Bennett Medical College, and the Chicago College of Medicine and Surgery; attending surgeon to the Lutheran Deaconess Hospital and consulting surgeon to St. Elizabeth's Hospital; aged 60; died, May 6, at his home in Oak Park, Ill., of heart disease.

William Colvin Miller, Mechanicsburg, Pa.; Medical Department of the University of the City of New York, 1888; chief of the bureau of clinics and formerly medical inspector of the state health department; at one time member of the state legislature and state senator; aged 61; died, April 16, at the Harrisburg Hospital of hypertrophic cirrhosis of the liver and chronic nephritis.

George T. MacCoy, Columbus, Ind.; Miami Medical College, Cincinnati, 1882; past president of the Indiana State Medical Association and the Indiana Tuberculosis Association; Civil War veteran; for many years member and past president of the state board of health; aged 84; died, April 14, of arteriosclerosis and myocarditis.

William J. Kay ⊕ Lapeer, Mich.; Detroit College of Medicine and Surgery, 1897; member of the American College of Physicians; past president of the Michigan State Medical Society; superintendent of the Michigan Home and Training School; aged 63; died, April 16, of streptococcic sore throat.

Rhoda Pike Barstow, Chicago; Hahnemann Medical College and Hospital, Chicago, 1888; professor of obstetrics, Hering Medical College, 1896-1906; superintendent of the Daily News Fresh Air Sanitarium; aged 77; was found dead in bed, April 9, probably of cerebral hemorrhage.

Isaac Leonard Wyatt, Louisville, Ky.; Louisville Medical College, 1904; member of the Kentucky State Medical Association; served during the World War; formerly health officer of Larue County; aged 59; died, April 25, in the Kentucky Baptist Hospital, of an accidental gunshot wound.

Samuel Allemong Ruffner, Kingston, Pa.; Jefferson Medical College of Philadelphia, 1890; member of the Medical Society of the State of Pennsylvania; chief medical examiner of the schools in Kingston; aged 64; died, April 7, in the Wilkes-Barre (Pa.) Hospital, of influenza.

Samuel Knapp Frost, Brooklyn; Medical Department of Columbia College, New York, 1895; formerly instructor in otology, University and Bellevue Hospital Medical College; aged 57; died, April 27, at the Methodist Episcopal Hospital, following an operation for gallstones.

Frederick Henry Mosher Long, Eaton Rapids, Mich.; Chicago Homeopathic Medical College, 1895; University of Michigan Homeopathic Medical School, Ann Arbor, 1902; member of the Michigan State Medical Society; aged 60; died suddenly, April 7, of heart disease.

John Aiken Sweat, Great Falls, Mont.; Medical School of Maine, Portland, 1880; past president of the state board of medical examiners; at one time member of the state legislature; formerly on the staff of the Columbus Hospital; aged 73; died, April 6, of bronchitis.

Aaron Floyd Kingsley ⊕ Battle Creek, Mich.; University of Michigan Medical School, Ann Arbor, 1900; past president of the Calhoun County Medical Society; formerly on the staff of the Nichols Memorial Hospital; aged 54; died, April 17, of heart disease.

Albert Miller Wilson, Kansas City, Mo.; University Medical College of Kansas City, 1891; also a pharmacist and a minister; aged 75; died, April 22, at the Wesley Hospital, of adenomatous hypertrophy of the prostate gland and arteriosclerosis.

Arthur Bernard Cannon, Buffalo; Bellevue Hospital Medical College, New York, 1898; member of the Medical Society of the State of New York; aged 57; died, April 8, at the General Hospital, Dansville, N. Y., of serous meningitis and nephritis.

William Dabney Lipscomb, Grapevine, Texas; Missouri Medical College, St. Louis, 1877; Medical Department of the Tulane University, New Orleans, 1889; member of the State Medical Association of Texas; aged 78; died, April 8, of angina pectoris.

John Lewis Smiley ⊕ Siloam Springs, Ark.; University of Nashville Medical Department, 1896; member of the American College of Surgeons; on the staff of the Siloam Springs City Hospital, where he died, April 15, aged 55, of angina pectoris.

J. Clyde Smith ⊕ Beloit, Wis.; Medico-Chirurgical College of Kansas City, Mo., 1903; past president of the Rock County Medical Society; aged 51; on the staff of the Beloit Municipal Hospital, where he died, April 17, of pneumonia.

Alfred Preston Davis, Winston-Salem, N. C.; Kentucky School of Medicine, Louisville, 1894; George Washington University Medical School, Washington, D. C., 1906; aged 74; died, April 11, of arteriosclerosis and cerebral hemorrhage.

Joseph Elias Miller, Salina, Kan.; Jefferson Medical College of Philadelphia, 1886; member of the Kansas Medical Society; on the staff of the Asbury Protestant Hospital; aged 67; died, April 29, of carcinoma of the bladder.

Nellie Jane Hanaway ⊕ Kalamazoo, Mich.; Indiana University School of Medicine, Indianapolis, 1910; aged 47; on the staff of the Kalamazoo State Hospital, where she died, April 19, of subacute bacterial endocarditis.

Edward Blumer ⊕ Monticello, Wis.; Rush Medical College, Chicago, 1903; president of the Green County Medical Society; for nineteen years village president of Monticello; aged 56; died, March 19, of pneumonia.

John Weldon Moon, Birmingham, Ala.; University of Nashville Medical Department, 1905; member of the Medical Association of the State of Alabama; aged 53; died, April 9, of chronic myocarditis and nephritis.

Timmons Greenberry Hamrick, Shelby, N. C.; College of Physicians and Surgeons, Baltimore, 1895; member of the Medical Society of the State of North Carolina; aged 75; died, April 15, of chronic myocarditis.

Patrick James Byrne, Washington, D. C.; State University of Iowa College of Medicine, Iowa City, 1884; Bellevue

Hospital Medical College, New York, 1886; aged 76; died, April 8, of carcinoma of the pancreas.

Frank Carter Larimore ⊕ Mount Vernon, Ohio; Bellevue Hospital Medical College, New York, 1869; Civil War veteran; past president of the Ohio State Medical Association; aged 84; died, April 18, of pneumonia.

Thomas J. Jackson, Milford, Mich.; University of Michigan Homeopathic Medical School, Ann Arbor, 1880; aged 82; died, April 23, at the Grace Hospital, Detroit, of chronic myocarditis and angina pectoris.

Herbert Claiborne Cole, Monroe, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1905; served during the World War; aged 46; died, April 7, in Baltimore, of heart disease.

Kenneth La Fayette Cook, Clifton, Tenn.; Vanderbilt University School of Medicine, Nashville, 1879; University of Nashville Medical Department, 1884; aged 77; died, April 10, of cerebral hemorrhage.

Robert Hodges Blackman ⊕ Shreveport, La.; University of Louisville (Ky.) School of Medicine, 1894; aged 59; died, April 4, at the Tri-State Sanitarium, of acute pancreatitis and gastroduodenitis.

William Lawrence Linder, Union, S. C.; Medical College of the State of South Carolina, Charleston, 1900; aged 52; died, March 11, in a hospital at Columbia, of myocarditis and chronic nephritis.

George H. Scriber, Dexter, Mich.; Michigan College of Medicine and Surgery, Detroit, 1891; aged 60; died, April 15, in St. Joseph's Hospital, Ann Arbor, of bronchopneumonia and diabetes mellitus.

John J. Moore ⊕ South Charleston, Ohio; College of Physicians and Surgeons, Baltimore, 1893; past president of the Clark County Medical Society; aged 66; died, April 12, of heart disease.

Milo H. Sutliff, Chevy Chase, Md.; Medical Department of Columbian University, Washington, D. C., 1895; aged 64; died, April 3, at the Georgetown Hospital, Washington, D. C., of heart disease.

Bruno William Bierbauer ⊕ Brooklyn; New York Homeopathic Medical College, 1891; on the staff of the Carson C. Peck Memorial Hospital; aged 64; died, April 19, of heart disease.

John E. Schoonover ⊕ Salem, Ill.; Kentucky School of Medicine, Louisville, 1889; formerly secretary of the Marion County Medical Society; aged 63; died, April 9, of diabetes mellitus.

Joseph Addison Woolley, Forest Hills, N. Y.; Long Island College Hospital, Brooklyn, 1896; for twenty years member of the state board of health; aged 56; died, April 6, of embolism.

Willis Andrew Logan, Maysville, Okla.; College of Physicians and Surgeons, Baltimore, 1905; member of the Oklahoma State Medical Association; aged 52; died, March 17, of nephritis.

Robert D. Haire ⊕ Clinton, Mo.; Missouri Medical College, St. Louis, 1878; past president of the Henry County Medical Society; aged 75; died, April 13, of valvular heart disease.

William Parsons Read ⊕ San Francisco; Jefferson Medical College of Philadelphia, 1896; aged 56; died, April 12, at St. Francis Hospital, of cerebral hemorrhage and arteriosclerosis.

Frederick Wilson Bowles, Quincy, Ill.; Keokuk (Iowa) Medical College, 1901; served during the World War; aged 51; died, April 1, in St. Mary's Hospital, of cirrhosis of the liver.

Jacob Schwartz ⊕ Cincinnati; Eclectic Medical Institute, Cincinnati, 1915; also a dentist; aged 46; died in April of injuries received in jumping from the roof of his garage.

Allan Percy Miller, Los Angeles; McGill University Faculty of Medicine, Montreal, Que., 1905; member of the California Medical Association; aged 49; died, February 19.

William Bernfeld, Brooklyn; Fordham University School of Medicine, New York, 1918; served during the World War; aged 35; was killed, April 10, in an automobile accident.

Thomas Roy Cook, Bloomfield, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1903; served during the World War; aged 51; died, April 14, of heart disease.

William Stockton Reed, Stockton, Ohio; Cincinnati College of Medicine and Surgery, 1893; formerly justice of the peace; aged 61; died, April 26, of acute nephritis.

Alexander Campbell Graham, Dallas, Texas; Bellevue Hospital Medical College, New York, 1869; aged 84; died, March 31, of lobar pneumonia and myocarditis.

Edward Adam Flaugher, Cayuga, Ind.; Medical Department of Butler University, Indianapolis, 1883; formerly postmaster; aged 83; died, April 7, of influenza.

John Rudis Jicinsky, Cicero, Ill.; Rush Medical College, Chicago, 1896; member of the Illinois State Medical Society; aged 67; died, April 28, of heart disease.

William Arrowsmith Coss ⊕ Danvers, Ill.; Marion-Sims College of Medicine, St. Louis, 1901; formerly health officer; aged 59; died, April 15, of heart disease.

Charles Howard Strong, New York; New York Homeopathic Medical College, 1875; aged 81; died in April of fracture of the pelvis and bronchopneumonia.

Emanuel Broomer, Centralia, Ill.; Missouri Medical College, St. Louis, 1880; aged 75; died, March 23, of carcinoma of the sigmoid and intestinal obstruction.

Henry Posert, Memphis, Tenn.; Missouri Medical College, St. Louis, 1889; on the staff of St. Joseph's Hospital; aged 71; died, March 31, of heart disease.

Siegfried E. Herbst ⊕ Northwood, Iowa; State University of Iowa College of Medicine, Iowa City, 1926; aged 30; died, April 19, of spinal meningitis.

Samuel Lewis Eaton, Newton, Mass.; Hahnemann Medical College and Hospital, Chicago, 1882; aged 77; died, April 17, of tuberculosis of the lungs.

Wesley Grant Rickard ⊕ Lincoln, Neb.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1905; aged 60; died, April 1, of heart disease.

Henry Irwin Clark, Scotland Neck, N. C.; University of Maryland School of Medicine, Baltimore, 1879; aged 73; died, April 17, of heart disease.

James Ebenezer Stetson, New Haven, Conn.; Yale University School of Medicine, New Haven, 1881; aged 86; died, April 27, of heart disease.

Newbert Jackson Hall, Brookline, Mass.; Harvard University Medical School, Boston, 1885; aged 72; died, April 18, of angina pectoris.

Everett Herbert Pea, Vincennes, Ind.; University of Illinois College of Medicine, Chicago, 1913; aged 43; died, April 14, of carcinoma.

Frederick Corning Rogers, Oconomowoc, Wis.; Chicago Medical College, 1887; aged 69; died, April 13, of cerebral hemorrhage.

Anthony Cauley, Humphrey, Neb.; Creighton University School of Medicine, Omaha, 1904; aged 52; died, March 24, of carcinoma.

Milton E. Williamson, Dayton, Ohio; Medical College of Ohio, Cincinnati, 1885; aged 70; died, April 28, of cerebral hemorrhage.

James Isaac Taylor, Ringling, Okla.; Fort Worth (Texas) School of Medicine, 1896; aged 60; died, March 2, of carcinoma of the liver.

Edward Meek ⊕ Little Rock, Ark.; Kansas City (Mo.) Medical College, 1877; aged 77; died, April 10, of diabetes mellitus.

Welty Daniel Miner, Morgan Hill, Calif.; Northwestern University Medical School, Chicago, 1903; aged 57; died, February 19.

William H. Flanagan ⊕ Grants Pass, Ore.; Willamette University Medical Department, Salem, 1884; aged 75; died in February.

Arthur M. Smith, Eureka, Calif.; Hahnemann Medical College and Hospital, Chicago, 1883; aged 74; died, February 12.

Henry Dallas La Rue, Mount Carmel, Ill.; Miami Medical College, Cincinnati, 1881; aged 74; died, April 8, of senility.

Gustav Henrikson ⊕ Sacramento, Calif.; California Medical College, San Francisco, 1894; aged 71; died, February 18.

Samuel H. Weitman, Oakland, Calif.; California Medical College, San Francisco, 1900; aged 69; died, February 26.

Richard Doe Currier, Reading, Mass. (licensed, Massachusetts, 1900); aged 64; died, April 6, of angina pectoris.

Augustus A. Angell, Millbrook, N. Y.; New York Homeopathic Medical College, 1881; aged 75; died, April 9.

Samuel H. Elliott, Ada, Ohio; Starling Medical College, Columbus, 1883; aged 76; died, April 26, of nephritis.

Thomas J. Forhan, Compton, Calif.; Rush Medical College, Chicago, 1878; aged 83; died, February 14.

Michael W. O'Connor, Detroit; Detroit College of Medicine, 1886; aged 66; died, March 28, of uremia.

Bureau of Investigation

LANTEEN LABORATORIES, INC.

A Chicago Concern That Commercializes Contraception

A Chicago attorney recently sent to THE JOURNAL a letter that his wife had received from the Medical Bureau of Information on Birth Control at Suite 1016 State-Lake Building, Chicago. The attorney's wife had recently given birth to a child. The letter was signed "Mary Hall, M.D." and the letterhead bore in its upper right hand corner the legend, "Dr. Mary Hall, Chief of Staff." At this point it is worth interpolating that the files of the American Medical Association of physicians, which are the most complete extant and based on official data, fail to disclose any one by the name of Mary Hall as a graduate of any reputable medical school or as licensed to practice either in Illinois or in any other state in the Union. A letter from the American Medical Association addressed "Dr. Mary Hall, 190 N. State St., Chicago, Ill.," was returned to the Association stamped "Not Found" and "Not There."

The opening paragraph of the letter received by the lawyer's wife stated that there was a proper and scientific method of preventing conception that was both harmless and economical and that the Medical Bureau of Information on Birth Control had, during the past month, given contraceptive advice to over three hundred mothers. It went on to state that the "Bureau" was not maintained for profit and that there was only a small charge of $3 for a private consultation with a woman physician, who was "specially trained in the science of birth control and the intimate facts of sex."

This somewhat imposingly-named Medical Bureau of Information on Birth Control is, apparently, a paper organization previously called the "Mother's Birth Control Clinic," and is a subsidiary of the Lanteen Laboratories, Inc., that was incorporated in Illinois in August, 1928, under the name Chinolene Products Company, and which changed its name to the present style in October, 1928.

The Chicago Better Business Bureau in a report issued in August, 1929, on the Lanteen Laboratories, stated that the officers and stockholders of this concern were as follows:

PRESIDENT: Rufus Riddlesbarger
TREASURER: E. C. O'Donnell
SECRETARY: Fay H. Riddlesbarger
DIRECTOR: Dr. John C. Hill

Presumably, the John C. Hill is Dr. John Curtis Hill, who has an office in the same building as the Lanteen Laboratories. Dr. Hill, according to the records, was born in 1880 and holds a diploma from the Illinois Medical College of Chicago (long since defunct) for 1903. Dr. Hill is a member of the Chicago Medical Society and, through that, has qualified as a Fellow of the American Medical Association.

A twelve-page folder that the Lanteen Laboratories concern puts into the hands of women who go to it carries with it the implication that the methods used or recommended by the concern are "sure, safe, scientific" and never fail. The company has for sale various mechanical contraceptive devices (condoms, cervical caps, etc.) and also medicinal preparations for local application. The latter are all given the generic name "Lanteen" and are differentiated by colors, as follows:

Lanteen Green.—These are described as cones, or suppositories, "for the bride" or for wives who have not yet borne children. The cones are said to be "powerfully antiseptic."

Lanteen Blue.—This is described as "ideal for the bride or the mother of one child" and is described as a "powerful contraceptive jelly, rose-scented, contained in a handy tube with a special nozzle."

Lanteen Russet.—This is recommended for the "mother of two or more" and is said to be a soft, sterilized rubber sponge with a bottle of (allegedly) powerful contraceptive liquid, sufficient for twenty-five applications.

Lanteen Rose.—"For the middle-aged mother of several children"; described as "soft wool tampons in capsules, which also contain a suppository, used in combination with the Contraceptive Jelly, thus furnishing a triple protection."

Lanteen Lilac.—This seems to be their most expensive combination and consists of soft rubber diaphragms to fit over the cervix, with a tube of the Contraceptive Jelly, which is used to "seal the cap in place while worn."

The prices for these various forms of Lanteen preparations range from $1.25 for the "Lanteen Green" up to $3 for the "Lanteen Lilac."

A young woman who went to the Lanteen Laboratories' office was told by the girl at the information desk that those women who preferred to consult a male physician could have the services of Dr. Hill, but that most of the persons who came to the Medical Bureau of Information on Birth Control preferred a woman physician. The doors on the private offices of the suite given over to the Medical Bureau of Information on Birth Control carried the following names:

MILDRED BUZZA, M.D.
ELMA WEBER, R.N.
RUFUS RIDDLESBARGER, Executive Director
MARY HALL, M.D.

Dr. Buzza was the only available person for consultation when the young woman called. Dr. Buzza took the young woman's "social history," which included, in addition to the name, address, age, etc., information on the marital relationship, questions on the methods of contraception that had been practiced, and other details of a similar character. The young woman was further told by Dr. Buzza that most husbands are selfish and that it was the place of a husband to cooperate, and that should the husband need proper instruction she (Dr. Buzza) would gladly give it to him if he called at her office. The doctor also went into the most intimate details on the technic of intercourse.

According to the Association's records, Dr. Mildred J. Buzza was graduated by the University of Nebraska College of Medicine in 1925 and was licensed in Nebraska, Iowa and Colorado, but not in Illinois. Dr. Buzza holds membership in the Iowa State Medical Society, having been accepted for a member by the Pottawattamie County Medical Society and, through that, she has qualified as a Fellow of the American Medical Association.

THE ADJUSTOR

Another Mechanical Fraud

Under the trade names "Dale Manufacturing Company" and "J. Dale," there was exploited from Chicago, Ill., another one of the glass vacuum pumps, so many of which have been sold as alleged cures for impotence. In this case it was called the "Adjustor." When the Dale Manufacturing Company were notified by the postal authorities to show cause why a fraud order should not be issued against them, Bass and Bass, attorneys of St. Louis, Mo., requested that further time might be given in which to engage local counsel.

It was S. M. Bass, a St. Louis attorney, who appeared for the Sampson Manufacturing Company, and G. R. Damiani who sold the "Adjusto," a device identical in every way with the Adjustor. The Adjusto—also called "Juvenator"—was declared a fraud in January, 1927. In May, 1928, the postal authorities issued a fraud order against the Vim Manufacturing Company and one A. Volta of Chicago, who conducted a scheme practically identical with that of the Sampson Manufacturing Company and the present concern, the Dale Manufacturing Company. The Solicitor for the Post Office Department, in his memorandum to the Postmaster-General recommending the issuance of a fraud order against the Dale Manufacturing Company and J. Dale, stated:

"The representations in the Vim Manufacturing Company scheme are identical with those being employed in the Dale Manufacturing Company scheme, and the device offered for sale is the same. It is quite apparent that the same promoter is simply changing his trade name and address in order to evade the effect of prior fraud orders. It will be noted that 'J. Dale,' the name now employed by the individual respondent in this case, is represented by the same firm of attorneys of St. Louis, Mo., that represented Damiani at the hearing here on January 6, 1927. It is manifest that the promoter of this scheme intended to utilize the additional time requested by his counsel, as hereinbefore indicated, in order to run a special sale in his device."

The fraud order was issued January 16, 1930.

On the same date the postal authorities also issued a fraud order against J. Veness. Veness, apparently, was another trade

name used by the same quacks that conducted the Dale Manufacturing Company. Veness also exploited a vacuum pump that was called the "Adjustor." Both fakes came from the same address.

Correspondence

"ADHESIONS IN THE RIGHT UPPER QUADRANT"

To the Editor:—I have just read with great interest the article of Dr. Arthur H. Curtis entitled, "A Cause of Adhesions in the Right Upper Quadrant" (THE JOURNAL, April 19, p. 1221). In the course of the past fifteen years I too have observed lesions identical with or similar to the type described by him. These adhesions have been observed not only in females but also in males; more commonly in the former, however, probably because of the fact that many more operations were performed in the female sex. It has been my impression, and I have so taught, that such adhesions, if not caused by syphilis, are usually seen in patients who have been the subjects of that disease.

While I respect the judgment of Dr. Curtis by reason of his large experience and keen powers of observation, his conclusion that such adhesions are due to gonococcic infection is not convincing. It is true that the lesions described do coexist in gonococcic pelvic infections, and I have been impressed with the number of patients with pelvic disease who complain of upper abdominal symptoms. In such cases I have felt that coincident syphilitic infection, proved or unproved, was the cause, when the lesion described was at fault. Dr. Curtis, in his article, made no reference to serologic examinations on his patients.

U. G. DAILEY, M.D., Chicago.

THE QUARTERLY CUMULATIVE INDEX MEDICUS—AN APPRECIATION

To the Editor:—The recently published statement that the American Medical Association is publishing the *Quarterly Cumulative Index Medicus* at a financial loss merits serious consideration. Doubtless a larger subscription list would enable the Association to avoid the still greater deficit that will be faced in the future. An increase in subscribers would result, if it were more generally appreciated that the *Index* represents a service the value of which cannot be overestimated.

Some years since I read in a German medical journal an article on the treatment of cancer. At that time the article made no particular impression on me and I forgot all about it. Even another article on this subject, condemning the method, produced no especial impression, for I had already made up my mind that the agent represented merely one of the many varieties of the dyes that had been tried experimentally without producing tangible results in a clinical sense.

A few weeks ago my attention was again drawn to the subject, this time because further investigation seems to have established some therapeutic value of the colloidal dye. But I had forgotten the author's name and the source of my original information.

Taking the last volume of the *Index* and turning to the heading "Cancer" and subheading "Therapy," I found in a few seconds the reference for which I was searching. It was easy for me to obtain not only the article referred to but several other contributions by the same author on the subject of cancer therapy.

Once being interested in cancer problems, I looked up the number of new books published during the last half of 1929. I counted nine books in English, five in French, five in German and five in Italian. By a cross reference I found the sizes and prices of the books and the names and addresses of their publishers. More than 400 articles are listed in volume 6 on any and all phases of the cancer problem in many languages.

This is only one subject. I estimated that each volume brings in round figures 56,000 titles and sources of medical literary contributions, including monographs—or a total of 112,000 annually.

The entire range of medicine, specialties and allied sciences is not only listed but also classified by two simple systems (authors and subjects), so that any one interested in any subject can lay his hand on the world's literature in the course of a few minutes: truly a service to writers, teachers, students and general practitioners seeking information which is priceless!

The *Quarterly Cumulative Index Medicus* should be in the library of every physician who takes an active interest in the progress of our science.

GUSTAVUS M. BLECH, M.D., Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

POSSIBLE TOXICITY OF COD LIVER OIL IS EXAGGERATED

To the Editor:—The following appeared in a paper that came out a few weeks ago:

Cod liver oil is poisonous according to claims made by Prof. E. Agduhr of Upsala University, Sweden, in a recent address before the teachers of the dental institute. During many years Professor Agduhr has experimented on different animals and during the same time had opportunity to study these poisonous results while performing autopsies of children whose death clearly resulted from a cod liver oil diet.

In making his experiments the professor has used the oil in doses of from 0.1 cc. per kilogram of body weight per day to 5 cc. and made use of different forms of oil and oil emulsions, but constantly produced the same poisonous results.

He showed that sickly changes took place in the heart, the liver and the inner secretive organs and in the reproductive organs. The speaker considered the disturbances in the muscles of the heart as particularly serious. Of especial interest are his observations in regard to the power of reproduction of the animals on which he experimented. Dogs as well as cats became absolutely sterile after a cod liver oil diet.

We cannot, of course, vouch for the truth of the above. We have taken the item from a Swedish weekly. But if the findings of Professor Agduhr prove to be reliable by similar experiments by other scientists, medical science and practice will have to be considerably altered.

Since that time I have had several question me concerning the matter. I wonder whether you can give me any information as to the scientific reliability of the so-called experiments of this Prof. E. Agduhr of Upsala University. Is this write-up just one of those sensational stories made up in the paper office? It surely stirs up discussion and weakens the public's faith in medicine. Please omit my name. M.D., California.

ANSWER.—The statement to which our correspondent refers is evidently based on the thesis advanced by Agduhr at the thirteenth International Physiological Congress in Boston last summer (*Am. J. Physiol.* **90**:260 [Oct.] 1929). He contended that cod liver oil causes changes in the organism, notably (1) decreasing weight curves, (2) electrocardiographic changes and (3) histologic changes in different organs chiefly of regressive type. The report was based on a study of "more than 1,400 animals" and included microscopic examinations "of some organs belonging to two children, which had been subjected to cod liver oil medication." It seems scarcely worth while to review all the details here. They include assertions of pathologic manifestations of almost every organ system in the body. Particularly noticeable is the statement of marked changes in the "weight curves." This seems remarkable in view of the fact that small experimental animals of the sort employed by Agduhr are being fed cod liver oil, in therapeutic doses, literally by thousands in dozens of laboratories, without reports of such devastating conditions. Agduhr remarked that "the smaller the dose of cod liver oil and the more 'complete' the basal diet of the animal, the longer it takes to produce these lesions." Perhaps therein lies a clue to the unexpected outcome of his tests. The details of the rations that he used are not recorded. It is quite conceivable that his "complete diet of vitamin-researchers" may actually have been far from adequate over long periods of time. In that event the effect of prolonged deficiencies, even if slight, would make themselves manifest. Pellagroid symptoms, for example, are only slowly manifested

in experimental animals unless their rations are drastically unsuitable.

It should be noted that reports of "toxic effects" from prolonged dosage with *large* doses of cod liver oil have been published at various times. Clinicians have never considered such claims seriously in relation to the usual therapeutic intake of cod liver oil; nor have Agduhr's contentions received confirmation thus far under conditions of unexceptional feeding. The latest critical review of the use of cod liver oil by A. F. Hess, an expert in this field (Rickets, Including Osteomalacia and Tetany, Philadelphia, Lea & Febiger, 1929), refers without condemnation to the use of cod liver oil as a public health measure, though he concludes that "it will probably be largely replaced" (page 417). The disastrous effects of overdosage with enormous quantities of vitamin D are being reported. Theoretically, comparable overdosage with cod liver oil would also be harmful. At the present time it seems reasonable to counsel the continued use of cod liver oil in a rational way without hesitation. Perhaps, too, it may be well to caution against the undue use of any prophylactic measure—even sunlight and cod liver oil.

DRUGS PASSING INTO MILK

To the Editor:—Can drugs such as strychnine, castor oil and salts be passed along to any appreciable extent to the person drinking milk from a cow that has received such medication? M.D., Iowa.

ANSWER.—The question is a difficult one on which to find authoritative data. A summary of the knowledge available for human beings is given in Abt's Pediatrics: Talbot and Morse give the following list of drugs that have been proved to exist in the breast milk in small quantities after ingestion by the mother: potassium iodide, sodium salicylate, antipyrine, mercury, acetylsalycilic acid, calomel, arsenic, bromides, methenamine and certain fat soluble substances.

It is probable that a similar situation would exist in animals. It is doubtful whether castor oil would be absorbed in any appreciable amount from the intestine.

BISMUTH POISONING

To the Editor:—Does a bismuth line on the gums mean bismuth intoxication? Is bismuth intoxication a cause of anemia? Will you please give symptoms and treatment of bismuth poisoning following intramuscular injections? W. G. WALKER, M.D., Brockton, Mass.

ANSWER.—A bismuth line on the gums means saturation with the drug not necessarily complete, for it can be continued for a time without serious results but should be carefully watched if this is done. Bismuth intoxication may be a cause of anemia. Commoner manifestations are the bismuth line, gingivitis and stomatitis, albuminuria, icterus, muscular and joint pains, colitis and loss of weight. The treatment consists of intravenous injections of sodium thiosulphate, rest, nonirritating diet, plenty of water, and the cessation of all antisyphilitic treatment. Local treatment of the stomatitis should include rinsing with hydrogen dioxide, followed by a soothing antiseptic such as compound solution of sodium borate, N. F.

EPILEPTIFORM ATTACKS

To the Editor:—A woman, aged 27, single, is normal except as follows: At 3½ years she had cerebrospinal meningitis; she was sick for three weeks, and the illness left her right arm and leg spastic and crooked. In addition to the arm and leg defects, she is somewhat backward mentally. She is bright in music, above the average, and plays the piano with the left hand only, with more skill than the average. Her social habits are not as good as those of her sisters and brothers. She spends all her reading with fiction. She is strongly sexed and has a strong desire for male company. Sometimes at night, usually the first part of the night, she wakes up with muscles tense and jerking, with harrowing dreams and thoughts of dying, and a hurried, somewhat pounding heart. Sometimes these spells do not come for two weeks or more; at other times they come every night, and sometimes more than once in a night. At first they seemed to affect only the right side, but lately she says they affect the whole body, though I think not the face. I have given her a small dose of bromides. She has no headache following, or preceding the spells. I wonder whether these are the petit mal of epilepsy and is it likely to develop into real epilepsy. Are degenerative changes likely to come in this form or not? If so, is there any treatment worth while? Even if it should not be petit mal, is it well to give her any medicine? She walks with much limp and never uses her right hand for any purpose. I sometimes wonder whether the ovaries should be dysfunctioned by x-rays. M.D., Indiana.

ANSWER.—The attacks described are of epileptiform nature, though they are not typical for the reason that the patient is apparently conscious during the attack, or at least during the later part of the attack. The fact that they were at first limited to the right side is probably related to the more severe damage to the left side of the cortex by the illness in childhood. It is not uncommon for seizures to occur only at night and the patient and his relatives may be unaware that they have occurred. Petit mal attacks consist of loss of consciousness without convulsive phenomena, so that these seizures belong rather with the major or grand mal type. Since the attacks are recurring frequently it would be well to prescribe phenobarbital or bromides. If the former is used (probably 0.05 Gm. [¾ grain] before going to bed will suffice) it should be remembered that the drug should not be discontinued abruptly, as this may be followed by a series of convulsions. It is possible, too, that these remedies will suffice to diminish sexual desire. The production of an artificial menopause by means of the x-rays would only add to the adjustments the body is required to make.

TREATMENT OF DERMATITIS PAPILLARIS CAPILLITII

To the Editor:—Please advise treatment of a case of dermatitis papillaris capillitii. If roentgenotherapy is indicated, please advise dosage. Please omit name. M.D., Illinois.

ANSWER.—Radium or roentgen rays give the best results. MacKee (X Rays and Radium in the Treatment of Diseases of the Skin, Philadelphia, Lea and Febiger, 1927, p. 240) suggests 5 milliamperes, 9 inch spark gap or 137 kilovolts, 10 inch distance, 1 mm. aluminum filter, six minutes as an erythema dose. Somewhat less than this should be given once a month, sheet lead being used to protect the hair and other parts, especially to prevent overlapping of the exposures.

AVOIDANCE OF EPIDERMOPHYTON INFECTION IN SHOWER BATHS

To the Editor:—We have a new high school building in Owosso, and I have been asked to advise the best method for sterilizing the shower bath floors against epidermophytosis. Will you kindly tell me the method that you would recommend. A. L. ARNOLD, M.D., Owosso, Mich.

To the Editor:—I wish to secure some information with regard to the control of tinea of the feet in shower baths and swimming pools. The use of our pool is restricted to those who have passed a careful medical examination. We exclude all those showing any suspicious signs of tinea of the feet. However, these examinations are made only once a year. We have had several cases in which tinea was apparently acquired either in the shower baths or from the area around the margin of the pool. Is there any method of disinfecting floors which will effectively safeguard those using the baths and pool? Please omit name. M.D., Ohio.

ANSWER.—Scrubbing with hot water and soap and thorough rinsing is probably as good a method as any. Infection of the floors may be avoided by insistence on individual bath slippers.

TREATMENT OF DYSMENORRHEA

To the Editor:—What is the recognized treatment for functional dysmenorrhea, by which I mean dysmenorrhea without evident organic pathologic changes being present. An older physician recommended to me two compounds—Wyeth's hydras compound and Hayden's viburnum compound. According to Sollmann's Pharmacology, hydrastis, viburnum and benzyl benzoate (three widely used drugs in dysmenorrhea) are of no value. L. C. DAVIS, M.D., Madison, Wis.

ANSWER.—There is no unanimity as to what constitutes "the recognized treatment for functional dysmenorrhea." The fact that a large number of different remedies has been suggested for this condition indicates that no one of them has been successful. In most cases, especially in young high school and college girls, the mental attitude plays an important part and sympathy fosters this attitude. In many instances a regular, time-consuming occupation lessens the pain considerably. Sufficient rest and sleep, proper hygiene and treatment for anemia, if it is present, are necessary. Sensible psychotherapy is important.

During an attack, rest in bed is most helpful and also proper evacuation of the bowels, by an enema if necessary. A hot water bag gives most patients some relief. Of the drugs used, the most popular are the coal tar derivatives, such as acetphenetidin, which is the best of this group, acetanilid and antipyrine. Acetylsalicylic acid and amidopyrine are also used a great deal. A drug that has given excellent results in many cases is atropine, because it diminishes the irritability of the autonomic uterine nerve endings. The patient should begin taking 0.5 mg. (1/120 grain) every four hours two or three days before the menses are expected and continue until the second or third day of the flow. She should take enough until her throat is dry or there is flushing of the cheeks. Small amounts of codeine or of opium are helpful but it is best to avoid narcotics as long as possible. Benzyl benzoate has not proved to be especially helpful. Permanent cures are difficult to obtain

in many cases. Some women have been cured by dilation of the cervical canal even though this treatment is based on the wrong assumption that obstruction is the cause of dysmenorrhea. A large number of women have been permanently cured by pregnancy and some by marriage alone without a pregnancy.

Wyeth's Hydras and Hayden's Viburnum Compound are to be condemned unqualifiedly. They owe practically all their recommendation to their large alcoholic content.

TREATMENT OF INGUINAL HERNIA AND OF ENURESIS

To the Editor:—1. What is the present-day treatment for inguinal hernia of the right side in a boy 3 years of age? Should a truss be the indicated method? Please inform me of the name and address of a reliable firm in Minneapolis that could furnish one. 2. What is the treatment for enuresis in a man, 20 years of age, who has been suffering from this condition all his life?

F. L. CLASS, M.D., Huron, S. D.

ANSWER.—1. The treatment of hernia in a boy 3 years of age depends on the size and duration of the hernia. A spring truss may be fitted almost immediately after birth and should be worn constantly. It should be watched by the physician and changed occasionally as the child grows. If the truss does not retain the hernia, it should be removed immediately. If the hernia is large, or for some reason the truss will not hold the hernia, operation should be performed. Probably more than 75 per cent of small hernias in young children are cured by the use of a truss. The earlier it is used and the smaller the hernia, the better the chance of a cure. At the age of 3 or 4 years, unless there is some evidence of a cure following the continued use of the truss, the hernia should usually be operated on. The Physicians' and Hospital Supply Company, Minneapolis, makes trusses, but the fitting of a truss should be supervised by a physician.

2. Enuresis in a man, aged 20, especially when present since infancy, is relatively uncommon. Most cases stop spontaneously in early adolescence. A specific course of treatment cannot be prescribed without a detailed analysis of the case. A thorough physical, laboratory and roentgen examination of the patient must be made to eliminate organic or physical causes, as (*a*) diseases of the central nervous system such as spina bifida occulta or neuromuscular vesical dysfunction, (*b*) endocrine disturbances such as diabetes insipidus, (*c*) diseases of the bladder and kidney such as infections, calculi, chronic nephritis and malformations, and (*d*) local irritations such as phimosis, narrow meatus and fissures. If any such physical defects are found, they should be corrected or eliminated if possible.

In most cases, however, no physical basis can be found for the enuresis. Then a psychic factor for continuing the infantile habit should be searched for. A careful history of the patient's earlier habits, reactions and environment should be obtained. Especially at 20 years of age the sex life of the patient should be carefully analyzed, as the enuresis may have become a substitution for masturbation or accompany erotic dreams. The emotional background and status of the patient should be ascertained. Full cooperation and confidence of the patient must be obtained. The physician should build up the faith that success can be attained and continually encourage the patient by suggestion. It is well to instruct him that he wets the bed because he subconsciously wants to, and that just as one can train oneself by suggestion to awaken at a certain hour to catch a train, the enuretic can train himself to awaken at certain hours to urinate before the involuntary event occurs. An alarm clock may be necessary at first. Punishment, threats, fear and anxiety should be eliminated as far as possible. After all, although it is a nasty habit, the patient can come to no harm through it and need not become obsessed with the idea.

Drug therapy helps in certain cases. In the high tensioned, highly emotional hyperkinetic individual accompanied by restless or poor sleep, sedatives such as phenobarbital are indicated. The type that have frequency of urination during the day as well as nocturnal enuresis often respond well to maximal doses of atropine or belladonna three times daily. An asthenic, anemic individual may require tonics, more exercise and outdoor life.

Surgical treatment in most cases is not necessary. Passing of sounds should not be done unless there is a definite surgical indication.

Changing the patient's environment often helps decidedly, such as sending him to military camp, dormitory or even hospital ward bed. In the presence of other youths he will make an extraordinary effort to stop.

Psychoanalysis is sometimes necessary to cure enuresis at this late age.

The following general instructions will improve most patients: (*a*) Fluid (milk, water, soup) should be restricted after 5 p. m. The evening meal should be light and dry, consisting of cereal, custard, junket, bread, jello or fruit. Tea, coffee, pepper, salt and condiments should be avoided at all meals. Especially should salt and sweets be avoided after 4 p. m., as these increase thirst. (*b*) The patient should empty the bladder before retiring. (*c*) Generally speaking, taken as a group, most persons who wet the bed have an oversensitive nervous system, are high strung and active, and are not emotionally as stable as those who do not wet the bed; in short, they are the so-called nervous type. This sensitive nervous system probably tends to respond too quickly to impulses sent to it from the bladder; consequently no excitement or high tension should be allowed after 5 p. m., such as exercise, competitive games, loud laughter, movies or exciting radio programs. The person should sit down and be quiet after 5 p. m. He should not become too fatigued before retiring and should retire early.

Finally, enuresis is really only a symptom and not a disease entity, usually a functional disturbance, the psychologic causes of which may vary considerably in different instances. Consequently, in order to obtain successful results, each case requires individual analysis. The approach that cures one may aggravate the condition in another.

CHLORBUTANOL AS A HYPNOTIC — CONTINUOUS USE OF QUINIDINE

To the Editor:—1. I should like to know whether chlorbutanol (chloretone-Parke, Davis & Co.) in 3 grain doses is a safe and efficient hypnotic to be used intermittently in case of insomnia due to excessive nerve strain or nerve exhaustion (neurasthenia). How does it compare with the barbituric acid derivatives as a hypnotic? 2. I should also like to know whether you have any data on the continuous use of quinidine sulphate in doses of 3 grains three times daily, as to any possible injurious systemic effects such as loss of weight or malaise (the quinidine being given for a cardiac condition). Please use initials only.

M.D., Ohio.

ANSWER.—1. Chlorbutanol is safe in the dose mentioned but it is probably not as reliable or efficient a hypnotic in small and safe dosage as are the barbituric acid derivatives.

2. Among the untoward effects of quinidine, bradycardia has been reported with or without vertigo or faintness. It may also induce tachycardia. Cramps and diarrhea, headache and tinnitus must also be looked out for; but, so far as is known, there is no special effect on metabolism.

POSSIBLE DIAGNOSIS OF LESION OF THE SPINAL CORD

To the Editor:—Please give me your opinion on the diagnosis, prognosis and treatment of the following case: About fifteen months ago I was consulted by a man, aged about 35, right-handed, who complained of inability to write as he formerly did because of cramps in the muscles of the hand; there was inability to grasp the pen firmly, and the characters written were defective. He had done excessive writing both with pen and on the typewriter. He is a lawyer and served overseas during the World War. The Wassermann reaction was negative and the knee jerks were normal. Two years previously he had received antisyphilitic treatment. He thinks that he now experiences some slight difficulty in the movements necessary for conveying food to the mouth with the right hand. I diagnosed the case as writers' cramp and advised rest. There being little or no improvement after more than a year of rest from writing with the right hand, he has become anxious lest the left hand, with which he now writes, should suffer the same fate. Please omit my name.

M.D., Texas.

ANSWER.—The diagnosis of this condition is necessary before one can suggest prognosis and treatment. Writers' cramp is rather an indefinite condition but certainly should be relieved after one year's rest from writing with the right hand. Since it has not been relieved, one must look further for the cause of this condition. Three things are suggestive of a cord lesion in this case:

1. The cramps, weakness in the right hand and arm, and the defective writing. Is there any atrophy of the arm by this time?

2. The slight difficulty in movements necessary for conveying food to the mouth with the right hand.

3. The possible antisyphilitic history.

From at least two of these one would think of a probable early multiple sclerosis. Since the condition is so localized to the right arm, one must also think of the possibility of a cord tumor. Spinal puncture and study of the spinal fluid should be done; one should note during the spinal puncture whether or not there is any evidence of obstruction by making pressure over the jugular vein. Careful roentgen studies of the cervical and upper dorsal vertebrae should be made. The condition must be diagnosed before an attempt is made to treat it.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, July 1-2, 1930. Sec., Dr. H. P. Mills, 14 N. Central Ave., Phoenix, Ariz.

COLORADO: Denver, July 1, 1930. Sec., Dr. Wm. W. Williams, 224 State Capitol Bldg., Denver.

CONNECTICUT: New Haven, June 7, 1930. Basic Science. Chairman, Prof. C. M. Bakewell, Box 1895, Yale Station, New Haven, Conn.

DELAWARE: Wilmington, June 10-12, 1930. Sec., Dr. H. L. Springer, 1013 Washington St., Wilmington, Del.

FLORIDA: Lakeland, June 16-17, 1930. Sec., Dr. Wm. M. Rowlett, P. O. Box 603, Tampa, Fla.

GEORGIA: Augusta, June 4-6, 1930, and Atlanta, June 11-13, 1930. Sec., Dr. B. T. Wise, Americus, Ga.

IOWA: Iowa City, June 3-5, 1930. Dir., H. W. Grefe, Des Moines, Iowa.

KANSAS: Kansas City, Kan., June 17, 1930. Sec., Dr. Albert S. Ross, Sabetha, Kan.

KENTUCKY: Louisville, June 10, 1930. Sec., Dr. A. T. McCormack, 532 West Main St., Louisville, Ky.

LOUISIANA: New Orleans, June 12-14, 1930. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Waterville, July 1-2, 1930. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland, Me.

MARYLAND: Baltimore, June 17-20, 1930. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore, Md. Homeopathic. June 17-18, 1930. Sec., Dr. J. S. Garrison, 517 Old Orchard Road, Baltimore.

MICHIGAN: Ann Arbor, June 10-12, 1930, and Detroit, June 16-18, 1930. Sec., Dr. F. C. Warnshuis, 1010 Maccabee Bldg., Detroit.

MINNESOTA: Minneapolis, June 17-19, 1930. Sec., Dr. E. T. Sanderson, 524 Lowry Bldg., St. Paul. Basic Science, June 3-4, 1930. Sec., Dr. E. T. Bell, 110 Anatomy Bldg., University of Minnesota, Minneapolis.

MISSISSIPPI: Jackson, June 26-27, 1930. Sec., Dr. F. J. Underwood, Jackson, Miss.

MISSOURI: St. Louis, June 11-13, 1930. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City, Mo.

NEBRASKA: Omaha, June 10-12, 1930. Sec., Mr. Ernest M. Pollard, Lincoln, Neb.

NEW JERSEY: Trenton, June 16-17, 1930. Sec., Dr. Charles B. Kelley, 1101 Trenton Trust Bldg., Trenton, N. J.

NEW YORK: Albany, Buffalo, New York, Syracuse, June 23-26, 1930. Chief, Herbert J. Hamilton, Education Bldg., Albany, N. Y.

NORTH CAROLINA: Raleigh, June 16, 1930. Sec., Dr. John W. MacConnell, Davidson, N. C.

OHIO: Columbus, June 9-12, 1930. Sec., Dr. H. M. Platter, Ohio State Savings Bldg., Columbus, Ohio.

OKLAHOMA: Oklahoma City, June 10-11, 1930. Sec., Dr. J. M. Byrum, Shawnee, Okla.

OPHTHALMIC BOARD: Detroit, Mich., June 23, 1930. Sec., Dr. William H. Wilder, 122 So. Michigan Ave., Chicago, Ill.

OREGON: Portland, July 1-3, 1930. Sec., Dr. C. J. McCusker, Medical Dental Bldg., Portland, Ore.

OTOLARYNGOLOGY BOARD: Detroit, Mich., June 23, 1930. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha, Neb.

RHODE ISLAND: Providence, July 2-3, 1930. Dir., Mr. Lester A. Round, 319 State Office Bldg., Providence, R. I.

SOUTH CAROLINA: Columbia, June 24, 1930. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia, S. C.

TENNESSEE: Memphis, Nashville and Knoxville, June 13-14, 1930. Sec., Dr. A. B. De Loach, Medical Arts Bldg., Memphis, Tenn.

TEXAS: Austin, June 17-19, 1930. Sec., Dr. T. J. Crowe, 918-919 Mercantile Bank Bldg., Dallas, Texas.

UTAH: Salt Lake City, June 26-27, 1930. Dir., Mr. S. W. Golding, 412 State Capitol Bldg., Salt Lake City, Utah.

VERMONT: Burlington, June 18-20, 1930. Sec., Dr. W. Scott Nay, Underhill, Vt.

VIRGINIA: Richmond, June 17-20, 1930. Sec., Dr. J. W. Preston, 720 Shenandoah Life Bldg., Roanoke, Va.

WISCONSIN: Milwaukee, June 24-26, 1930. Sec., Dr. Robert E. Flynn, 315 State Bank Bldg., La Crosse, Wis. Basic Science. Milwaukee, June 23, 1930. Sec., Prof. R. M. Bauer, Marquette University, Milwaukee, Wis.

WYOMING: Cheyenne, June 2, 1930. Sec., Dr. W. H. Hassed, Capitol Bldg., Cheyenne, Wyo.

Porto Rico March Examination

Dr. Diego A. Biascoechea, secretary of the Board of Medical Examiners of Porto Rico, reports the written and practical examination held at San Juan, March 4-8, 1930. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Three candidates were examined and passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
George Washington University Medical School		(1925)	88.7
College of Physicians and Surgeons, Boston		(1927)	75
University of Michigan Medical School		(1922)	90.8

Vermont February Examination

Dr. W. Scott Nay, secretary of the Board of Medical Registration of Vermont, reports the written examination held at Burlington, Feb. 11-13, 1930. The examination covered 12 subjects and included 90 questions. An average of 75 per cent was required to pass. Five candidates were examined and passed. One physician was licensed by the endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Tufts College Medical School		(1929)	86.9
Jefferson Medical College		(1928)	92.6
University of Pennsylvania School of Medicine		(1929)	92.1
University of Vermont College of Medicine		(1929)	90
McGill University Faculty of Medicine		(1918)	89.6

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement of
University of Vermont College of Medicine		(1928)	N. B. M. Ex.

Book Notices

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE. By J. J. R. Macleod, M.B., LL.D., D.Sc., Regius Professor of Physiology in the University of Aberdeen, Scotland. Assisted by Roy G. Pearce, A. C. Redfield, N. B. Taylor, J. M. D. Olmstead and others. Sixth edition. Cloth. Price, $11. Pp. 1074, with 295 illustrations. St. Louis: C. V. Mosby Company, 1930.

Physicians, especially those who have been out of school twenty years, need this book. Biochemistry and physiology have contributed much to scientific medicine in that time. The author emphasizes particularly the application of this new knowledge to the practice of medicine. He does not, therefore, discuss physiology and chemistry solely from the teacher's or investigator's point of view. Since 1918 this book has passed through six editions. Many physicians will find the story of the development of the electrocardiograph and that of the autonomic nervous system as interesting as biography or a novel. Others will enjoy reviewing partially forgotten facts concerning the respiratory quotient, the calory requirement, metabolism and the vitamins. The discovery and development of insulin, in which the author took a conspicuous part, the ketogenic-antiketogenic ratios and the ductless glands are reviewed. Some of the experimental work is illustrated. The book is intended primarily to supplement the regular textbooks on physiology and functional pathology. It could be used advantageously as a text itself for the more advanced medical students.

PRAKTISCHE DIFFERENTIALDIAGNOSTIK FÜR ÄRZTE UND STUDIERENDE. Herausgegeben von Professor Dr. Georg Honigmann. Band III: Differentialdiagnostik in der Psychiatrie. Von Dr. Med. Hermann Haymann, Facharzt für Psychiatrie und Nervenkrankheiten in Badenweiler. Mit einem Beitrag: Die diagnostische Bedeutung der Intelligenzprüfungen. Von Dr. Phil. et Med. Erich Stern, a. o. Professor an der Universität Giessen. Paper. Price, 17 marks. Pp. 261. Dresden: Theodor Steinkopff, 1930.

This is a discussion of the important considerations in psychiatric differential diagnosis. As the book is small, each individual subject must necessarily be considered briefly. The contents are well organized and easily accessible through an adequate index. The same volume contains considerable worthwhile material with regard to intelligence tests. The book is written and constructed for the use of general practitioners rather than for specialists in psychiatry, and seems to fulfil its purpose adequately.

X-RAY TECHNOLOGY: THE PRODUCTION, MEASUREMENT AND APPLICATIONS OF X-RAYS. By H. M. Terrill, Ph.D., Associate in Physics, Institute of Cancer Research, and C. T. Ulrey, Ph.D., Research Physicist, Westinghouse Lamp Company. Cloth. Price, $4.50. Pp. 256, with 143 illustrations. New York: D. Van Nostrand Company, Inc., 1930.

This presents a phase of the subject that is glossed over in the majority of books on x-rays. It is mainly a treatise on x-ray measurements and the engineering fundamentals concerned with the production of x-rays and therefore will be found to be of the utmost practical value to those who are engaged in the technical phases of x-ray work. A considerable portion of the book covers the physical measurements of currents, of wavelengths, of energy and of ionization. A chapter on the biologic measurement of x-rays is especially illuminating and the physician specialist in roentgen therapy will find much that is rational from the practical point of view. It will give him satisfactory reasons for the results or lack of results that are

obtained in everyday roentgen therapy. The authors discount the biologic measurements and present a strong case in favor of the scientific ionization method of measuring x-ray dosage The serious x-ray technician who wishes to know the whys and wherefores of x-ray results will find this book to be of great value.

J. SCHÄFFERS BEHANDLUNG DER HAUT- UND GESCHLECHTSKRANKHEITEN. Von Dr. Karl Zieler, o. ö. Professor und Vorstand der Universitätsklinik und Poliklinik für Haut- und Geschlechtskranke in Würzburg, und Dr. Conrad Siebert, leitendem Arzt der Abteilung für Haut- und Geschlechtskranke am Krankenhaus Berlin-Lankwitz. Seventh edition. Cloth. Price, 15 marks. Pp. 468, with 84 illustrations. Berlin: Urban & Schwarzenberg, 1929.

The mere fact that this is the seventh edition attests the continued popularity of this work. Intended primarily for the practicing physician, it places stress on the detailed technic of treating the individual dermatoses. The large number of formulas will seem rather confusing to the American dermatologist. Such drugs as cignolin, calmitol, thigenol, captol, bromocoll—to mention but a few—are undoubtedly much more familiar to our German colleagues. The section on physical therapeutics—particularly that on x-rays and radium—is too condensed to be used as a reliable guide. On the other hand the chapters on gonorrhea and syphilis contain almost everything that the practitioner needs to know in the management of these disorders.

HISTORY OF THE MASSACHUSETTS GENERAL HOSPITAL, JUNE, 1872, TO DECEMBER, 1900. By Grace Whiting Myers. Cloth. Pp. 224, with illustrations. Boston, 1929.

The first account of this notable institution recorded its development up to 1872. The present volume concerns the period from 1872 to 1900. During this time the fiftieth anniversary of the use of ether was celebrated; notable advances were made in nursing service, and there were many other interesting developments, which are carefully recorded by Miss Myers. Such notable names as Codman, Channing, Cushing, Holmes, Shattuck, Fitz and Cabot are an indication of the way in which the medical genealogy of Boston is associated with its medical history. The book is well illustrated and carefully indexed.

THE LITERATURE OF AMERICAN SCHOOL AND COLLEGE ATHLETICS. By W. Carson Ryan, Jr. With a foreword by Henry S. Pritchett, President of the Carnegie Foundation. Bulletin No. 24. Paper. Pp. 305. New York: Carnegie Foundation for the Advancement of Teaching, 1929.

As a part of its survey of college athletics the Carnegie Foundation arranged to examine the literature of the subject. Here there is a collection of abstracts concerning athletics as education; the history of athletics; scholarship; mass athletics; health of athletes; coaching; athletics for women, and many other related subjects. The collection is preceded by a brief summary of various tendencies and by an abstract of the survey. "As to health, college athletes are found to have better life expectancy than the general population, but no better than the college population, which is itself a selected group, and not so good as that of college men of high scholarship rank."

URO-DIAGNOSTICO DE LA TUBERCULOSIS Y EL CUERPO DE DOCTRIN QUE LE SIRVE DE FUNDAMENTO—"LA TUBERCULOSIS ES UNA PTOMAINOSIS." Por el Dr. Lorenzo Comas y Martinez, director del dispensario antituberculoso "Dr. Felipe C. Hartmann" y del Instituto Antituberculoso de Oriente "Dr. Francisco Maria Fernandez" Santiago de Cuba. Trabajo presentado al 2°. Congreso de la Asociación Médica Panamericana celebrado en la ciudad de Panamá, República de Panamá Febrero de 1930. Paper. Pp. 103. Santiago, Cuba, 1930.

The author propounds the theory that the Koch bacillus, by its metabolism, produces end-products that in pathogenic action and chemical characterization are closely related to ptomaines. The exaggerated oxidation produced by these compounds, it is said, is mainly responsible for the wasting away of the tissues of the tuberculous patient. For the discovery of the metabolic end-products of the tubercle bacillus in the urine the author has developed chemical tests that are described in detail. The positive outcome of these reactions makes possible the diagnosis of urotuberculosis. The author, however, makes the reservation that so far his general deductions are of an experimental character only.

NOUVEAU TRAITÉ DE MÉDECINE. Par G. H. Roger, Fernand Widal et P. J. Teissier. Fascicule XVII: Pathologie des reins. Par Fernand Widal, A. Lemierre et Pasteur Vallery-Radot. Hémoglobinurie. Par Fernand Widal et P. Abrami. Boards. Price, 125 francs. Pp. 1024, with illustrations. Paris: Masson & Cie, 1929.

This is part of an elaborate system covering the entire field of practical medicine. This volume describes diseases of the kidney. Following the usual chapter on renal anatomy and physiology, the pathologic changes are taken up. These are presented for the most part according to the views of Ambard and Widal on renal elimination. In the discussion of the pathology and clinical manifestations of medical kidney diseases, modern views and differentiations are touched on merely in a cursory manner. The inflammatory diseases of the kidney, parasitic derangements and disorders due to tumors are treated in the traditional way. The closing chapter deals with hemoglobinuria.

RESEARCH AND MEDICAL PROGRESS AND OTHER ADDRESSES. By J. Shelton Horsley, M.D., Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va. Cloth. Price, $2. Pp. 208, with 6 illustrations. St. Louis: C. V. Mosby Company, 1929.

In this volume are collected general essays delivered by Dr. Horsley on various public or medical occasions and previously printed in various medical periodicals. Taken together, they reveal the trend of his medical and surgical philosophy. He would stimulate the curiosity and the spirit of inquiry that mark the clinician and investigator. He believes in surgery that conserves physiologic function. He has read widely, and the thoughts stimulated by his reading pour forth in these essays. To read them is to obtain the proof that not all surgeons are merely nimble fingered mechanicians of the human body.

NOTES ON THE MEDICAL TREATMENT OF DISEASE FOR STUDENTS AND YOUNG PRACTITIONERS OF MEDICINE. By Robert Dawson Rudolf, C.B.E., M.D., F.R.C.P., Professor of Therapeutics in the University of Toronto. Third edition. Cloth. Price, $4. Pp. 516. Toronto: University of Toronto Press, 1930.

This has been issued because of the many changes that have occurred in the treatment of disease in the six years since the last edition of this handbook appeared. Like the previous editions, this one is not intended to serve as a reference textbook but rather as a readable handbook for the senior student and young practitioner. The author excuses himself for a certain amount of dogmatism in the text displayed by quoting from a recent issue of the *Lancet:* "After all, it is better for a student to have a crystallized scheme which is only partly right than an amorphous mass of muddy uncertainty." After an introduction touching on the history of therapeutics and a chapter on "Routine in the Management of the Sick," the therapy of the various important diseases is taken up in the orthodox order and in the orthodox manner. The chief difference between this and the ordinary textbook on medicine is that only a paragraph or two is given to the preliminary matters discussed much more extensively in the others, and that therapeutics is taken up more extensively in this one. Thus, a course with a book of this kind as a text would correct the evil, generally acknowledged to exist, that preliminary matters occupy so much time and attention in the ordinary courses on medicine that no time or energy is left for an adequate discussion of treatment.

PSYCHOLOGY: NORMAL AND ABNORMAL WITH SPECIAL REFERENCE TO THE NEEDS OF MEDICAL STUDENTS AND PRACTITIONERS. By James Winfred Bridges, Ph.D., Professor of Psychology in the Faculty of Medicine McGill University. Cloth. Price, $3.50. Pp. 552, with 26 illustrations. New York: D. Appleton & Company, 1930.

The place of this book in the medical curriculum is difficult to determine. It seems to cover the ground occupied by collegiate courses in psychology that are prerequisite to medicine according to the American plan. Thus it is far too elementary to serve a purpose in classes on psychiatry. Perhaps its greatest usefulness will lie in bringing down to date the physician of an earlier period who had no fundamental training in psychology. For him it will provide a brief statement concerning psychologic definitions, concepts, the physiology of the brain, current trends, the basis of sensations, and emotions.

AKTIVERE KRANKENBEHANDLUNG IN DER IRRENANSTALT. Von Dr. Hermann Simon, Direktor der Provinzialheilanstalt Gütersloh. Paper. Price, 10 marks. Pp. 167. Berlin: Water de Gruyter & Co., 1929.

A consideration of active therapy in insane asylums is one which is extremely valuable because the majority of such institutions are devoted to custodial care for patients and usually for their physicians. This volume considers in some detail the various means of psychiatric treatment for the type of patient that must be kept in a state institution. It is worth while following, if not in its specific detail, at least in its general attempt at active treatment.

SURGERY AT THE NEW YORK HOSPITAL ONE HUNDRED YEARS AGO. By Eugene H. Pool and Frank J. McGowan. Cloth. Pp. 188, with 23 illustrations. New York: Paul B. Hoeber, Inc., 1930.

Such volumes as this emphasize anew the importance of being historically minded. Here are case records from the New York Hospital during the years 1808 to 1833. They concern surgery such as operations for hernia, aneurysm and bone infection, and such medical conditions as tetanus, snake bite, ptyalism and syphilis. It is possible, in the light of modern knowledge, to read these reports with tolerant amusement; it is also possible in the light of modern ignorance to marvel at the remarkable accomplishments of that day, considering the fundamental knowledge that was lacking. The book is well printed and handsomely illustrated.

A MANUAL OF DIET AND DIABETICS FOR PHYSICIANS, STUDENTS AND PATIENTS. By H. N. Chatterji, B.Sc., M.D. Cloth. Price, 6/- net. Pp. 144, with illustrations. London: Butterworth & Co., 1929.

The author of this book must be given credit for a serious effort, yet it is difficult to give the book serious consideration or figure why it was written. If it is for Indians, why should the author use as the method of communication a poor grade of English? Furthermore, there are more mistakes, both as to fact and as to quotation, than should ever be allowed to appear in an educational booklet. To give the appearance of truth under the guise of authority, when as a matter of fact the authorities are misquoted, is a pernicious habit which can only work harm.

DIE MEDIZIN DER GEGENWART IN SELBSTDARSTELLUNGEN: Einhorn, Faber, Küstner, Rieger und Unna. Herausgegeben von Prof. Dr. L. R. Grote, Chefarzt der C. von Noorden-Klinik in Frankfurt a M. Band 8. Cloth. Price, 12 marks. Pp. 219, with 5 portraits. Leipzig. Felix Meiner, 1929.

This is the eighth volume in this series containing autobiographic sketches and the photographs of contemporary physicians. The present book includes Einhorn, Faber, Küstner, Rieger and Unna. The essays provide excellent analyses of the medical contributions of the writers but fail, as does most autobiography, in any revelation of motivations. Perhaps the editor might ask his contributors to make their stories more subjective and personal, while he himself supplied the objective record of their accomplishments.

ACUTE INFECTIOUS DISEASES: A HANDBOOK FOR PRACTITIONERS AND STUDENTS. By J. D. Rolleston, M.A., M.D., M.R.C.P., Medical Superintendent, Western Hospital, London. Second edition. Cloth. Price, 15/- net. Pp. 419. London: William Heinemann, Ltd., 1929.

Here is a succinct but comprehensive account of each of the acute infectious diseases. The work is quite up to date, reflecting newer conceptions of etiology and providing adequate essays on treatment. The point of view is conservative and therefore reliable.

BACTERIAL METABOLISM. By Marjory Stephenson, M.A., Associate of Newnham College, Cambridge. Cloth. Price, $7. Pp. 320, with 34 illustrations. New York: Longmans, Green & Company, 1930.

The increasing recognition that the biochemical study of the bacterial cell may eventually contribute to the solution of many problems in the realms of immunity, of epidemiology and of life itself is exemplified in this summary of recent work. Fundamental investigations into energy relations, fermentation activities, respiration, carbohydrate and protein breakdown, nitrogen fixation, nitrification and similar topics are dealt with in a comprehensive and thorough fashion. There is a brief appendix with formulas of mediums, a full bibliography and a good index.

THERAPIE UND THERAPEUTIK: EIN MAHNRUF AN ÄRZTE, KLINIKER UND PHARMAKOLOGEN. Von Prof. Dr. I. Boas. Paper. Price, 4.80 marks. Pp. 79. Berlin: S. Karger, 1930.

The urgent necessity of the establishment of institutes devoted to therapeutics in connection with university clinics and large hospitals is convincingly demonstrated in this brochure; and methods of organization, of evaluation of results, and of cooperation with manufacturing establishments are discussed by one who has given the subject much thought. Boas uses the term "therapeutics" to mean the study of therapy, just as the term "diagnostics" is used to indicate the study of diagnosis.

THE MEDICAL MUSEUM: MODERN DEVELOPMENTS, ORGANISATION AND TECHNICAL METHODS BASED ON A NEW SYSTEM OF VISUAL TEACHING. By S. H. Daukes, O.B.E., M.D., D.P.H., Director of the Wellcome Museum of Medical Science Affiliated to the Bureau of Scientific Research. An Amplification of a Thesis Read for the Degree of M.D., Cambridge. Cloth. Pp. 183, with 44 illustrations. London: Wellcome Foundation, Ltd., 1929.

Teaching may be visual, auditory or by experience, or by various combinations. Modern science has provided medicine with innumerable methods of recording permanently the processes of the body in health and disease. The medical museum, formerly limited to pathologic specimens, now provides roentgenograms, electrocardiographs, photographs, paintings, wax models, injection specimens, and records of things seen by scopes that penetrate every orifice of the body. This book is planned as a guide to the creation and maintenance of medical exhibits as active teaching material. The advice is detailed, and numerous illustrations reveal how it may be put into effect.

Medicolegal

Death from Heart Disease Not Compensable

(Martin v. State Compensation Commissioner (W. Va.), 149 S. E. 824)

The deceased workman, a miner, 50 years old, had been in apparently good health. He and a fellow miner put their shoulders to a car, weighing with its contents about 2½ tons, and shoved it about 40 feet. According to the record, the amount of energy necessary to move the car was 115 pounds for each pusher. Just after shoving the car, he complained of a hurting in his chest and sat down. He died in ten or fifteen minutes. An autopsy showed his heart greatly enlarged, the heart muscles in a state of fatty degeneration, and many friable vegetations on the mitral and aortic valves. The widow claimed compensation under the workmen's compensation act. Her claim was rejected by the workmen's compensation commissioner, on the ground that death was caused by heart disease and not by an injury received in the course of and resulting from his employment. The action of the commissioner was affirmed by the board of appeals, after taking additional evidence. Thereupon the widow appealed to the Supreme Court of Appeals of West Virginia.

It is a very well settled principle, said the court, that an employee is not deprived of compensation because he is afflicted by some malady when he enters upon his employment. The act applies to every employee who suffers disability from accidental injury, and does not exclude the weak and those physically imperfect. This, however, does not dispense with the necessity for showing that the disability was actually caused by an accident or injury received in the course of, and arising out of, the employment. Without analyzing and discussing the great mass of decisions involving claims where applicants have been afflicted with heart disease at the time of their alleged injuries, it may be deduced from such decisions that compensation will not be awarded where the employee has chronic heart trouble which has reached such a stage that death is liable to ensue at any time, from any exertion, and death comes while the employee is doing the ordinary work of his employment. In the present case there were no external or internal marks nor other evidence of injury. Moreover, it was shown that it was not unusual for coal loaders to shove loaded coal cars out of their way, although they were not required to do so. It was the ordinary and not unusual labor of his employment which the deceased was per-

forming. Although, said the Supreme Court of Appeals, the court might have come to a conclusion different from the conclusion of the commissioner and the board of appeals, had it been called on to pass on the evidence in the first place, under the well settled principles of law, the court does not decide questions of controverted facts, and where there is evidence to sustain the ruling of the workmen's compensation commissioner, it is rarely disturbed unless it is plainly against the law. In the present case, the commissioner found that there was no unusual nor extraordinary effort made by the deceased employee in moving the car, and his finding was approved by the appeal board. In compensation cases, as in other cases, the rule is that the burden of proving that there was an injury is upon the applicant. When the evidence is equally consistent with an injury or no injury, the burden is not discharged. On the entire record, the court affirmed the finding appealed from and dismissed the appeal of the claimant.

Sunstroke and Heat Prostration as Accidents

(Hawkinson v. Order of United Commercial Travelers of America (Texas), 20 S. W. (2d) 101)

By a certificate issued by the Order of United Commercial Travelers of America, the deceased was insured against the effects of bodily injuries resulting from external, violent and accidental means. When the certificate was issued, a by-law of the order provided that it did not cover death, disability or loss resulting from sunstroke. Subsequently, and prior to the death of the insured, the by-law was amended so as to relieve the order from liability for injuries from heat prostration, as well as those from sunstroke or sunburn, whether caused by accident or not. July 3, 1923, the assured left Pomona, Calif., in an automobile. About 1 or 2 p. m., on the same day, his dead body was found in the automobile, on the desert. On the theory that death was due to heat prostration, the beneficiary under the certificate brought suit. Judgment was rendered in favor of the insurer, and the beneficiary appealed to the Court of Civil Appeals of Texas, El Paso.

The trial court held that the amendment to the by-law of the order, excluding heat prostration from among the causes of death for which the order was liable, removed to that extent the protection and benefit theretofore enjoyed by the insured. This, said the Court of Civil Appeals, was error. There are decisions supporting the ruling made by the trial court, but the weight of authority is that the reserved right of a mutual benefit insurance association to amend or alter its by-laws does not authorize an amendment or alteration which materially impairs the obligation of its prior contract of insurance. The insurer contended, however, that even if the amended by-law was invalid, heat prostration was a disease and therefore was not covered by a contract, which insured only against death occasioned by bodily injury effected through external, violent and accidental means. The appellate court held that this contention was foreclosed against the insurer by the decision rendered in *Bryant* v. *Continental Casualty Co.*, 107 Texas 582, 182 S. W. 673, and cited cases from other jurisdictions in support of its decision. Death from heat prostration, under the circumstances of this case, was a risk covered by the certificate of insurance.

The insurer insisted that the evidence was insufficient to show that the insured died from heat prostration as found by the trial court. The only witness who testified after seeing the body was the county coroner, a practicing physician. He testified that no autopsy was performed, but that after he had examined the body he pronounced it a case of death by heat exhaustion. It could not be said, therefore, that there was no evidence to support the finding of the trial court that the deceased died of heat prostration; and, said the Court of Civil Appeals, in view of a prospective retrial it would be inappropriate to discuss the probative force of the coroner's testimony in the light of the testimony of all the medical experts with respect to the difficulty of determining the exact cause of death under the facts shown.

By-laws of the order by which the deceased was insured provided that benefits should not cover any death, disability or loss "of which there shall be no external or visible marks on the body" and that "no benefits shall be payable unless there is some external, visible mark of the accident upon the body." Provisions such as these in accident cases, said the court, are generally held inapplicable in cases in which death has occurred, and in any event the death pallor and other evidences of death present on every dead body immediately or shortly after death sufficiently constitute the external and visible evidence within the purview of such provisions.

The decision of the court below was reversed and the case remanded.

Society Proceedings

COMING MEETINGS

American Medical Association, Detroit, June 23-27. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Goiter, Seattle, July 10-12. Dr. J. R. Yung, 670 Cherry Street, Terre Haute, Ind., Secretary.

American Association of Genito-Urinary Surgeons, French Lick, Ind., May 22-24. Dr. Herman L. Kretschmer, 122 S. Michigan Avenue, Chicago, Secretary.

American Association of Industrial Physicians and Surgeons, Detroit, June 23-24. Dr. V. S. Cheney, Armour and Company, 43d Street and Racine Avenue, Chicago, Secretary.

American Association of Medical Milk Commissions, Detroit, June 23-24. Dr. Harris Moak, 360 Park Place, Brooklyn, New York, Secrtary.

American Bronchoscopic Society, Atlantic City, May 27. Dr. Louis H. Clerf, 128 S. Tenth Street, Philadelphia, Secretary.

American Dermatological Association, Cleveland, June 19-21. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gynecological Society, Hot Springs, Va., May 19-21. Dr. Floyd E. Keene, 133 S. 36th Street, Philadelphia, Secretary.

American Heart Association, Detroit, June 24. Dr. I. C. Riggin, 370 Seventh Avenue, New York, Executive Secretary.

American Laryngological Association, Swampscott, Mass., May 22-24. Dr. George M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 28-30. Dr. Robert L. Loughran, 33 E. 63d Street, New York, Secretary.

American Neurological Association, Atlantic City, June 9-11. Dr. Henry A. Riley, 117 East 72d Street, New York, Secretary.

American Ophthalmological Society, Hot Springs, Virginia, June 2-4. Dr. Emory Hill, 501 E. Franklin Street, Richmond, Va., Secretary.

American Otological Society, Swampscott, Mass., May 20-22. Dr. Thomas J. Harris, 104 E. 40th Street, New York, Secretary.

American Pediatric Society, Montreal, June 17-19. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Physiotherapy Association, Detroit, June 23-24. Miss C. H. Ballard, St. Francis Hospital, San Francisco, Secretary.

American Proctologic Society, Buffalo, New York, June 23-24. Dr. Curtice Rosser, Medical Arts Building, Dallas, Texas, Secretary.

American Radium Society, Detroit, June 23-24. Dr. G. W. Grier, 500 Penn Avenue, Pittsburgh, Secretary.

American Society of Clinical Pathologists, Detroit, June 20-23. Dr. H. J. Corper, Metropolitan Building, Denver, Secretary.

American Therapeutic Society, Detroit, June 20-21. Dr. William J. Mallory, 1720 Connecticut Avenue, Washington, D. C., Secretary.

American Urological Association, New York, June 10-12. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Association for Research in Ophthalmology, Detroit, June 24. Dr. Conrad Berens, 30 East 40th Street, New York, Secretary.

Association for the Study of Allergy, Detroit, June 23-24. Dr. Warren T. Vaughan, 118 East Franklin Street, Richmond, Va., Secretary.

Association for the Study of Internal Secretions, Detroit, June 23. Dr. F. M. Pottenger, Monrovia, Calif., Secretary.

Association of American Teachers of the Diseases of Children, Detroit, June 24. Dr. Ralph M. Tyson, 334 South 21st Street, Philadelphia, Secretary.

Conference of State and Provincial Health Authorities of North America, Washington, D. C., June 2-3. Dr. A. J. Chesley, State Board of Health, St. Paul, Minn., Secretary.

Connecticut State Medical Society, Hartford, May 21-22. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Idaho State Medical Association, Coeur d'Alene, June 27-28. Dr. Joseph N. Davis, Kimberly, Secretary.

Illinois State Medical Society, Joliet, May 20-22. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Maine Medical Association, Portland, June 2-4. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Plymouth, June 17-18. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Montreal, June 24. Miss Sue Biethan, General Library, University of Michigan, Ann Arbor, Secretary.

Medical Women's National Association, Detroit, June 22-24. Dr. Elizabeth Kittredge, 3906 McKinley Street, Washington, D. C., Secretary.

Montana, Medical Association of, Butte, June 30. Dr. E. G. Balsam, Box 88, Billings, Secretary.

New Jersey, Medical Society of, Atlantic City, June 11-14. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Raton, June 4-6. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Rochester, June 2-5. Dr. Daniel S. Dougherty, 2 E. 103d Street, New York, Secretary.

North Dakota State Medical Association, Bismarck, May 27-28. Dr. Charles MacLachlan, San Haven, Secretary.

Oklahoma State Medical Association, Shawnee, May 26-28. Dr. Claude A. Thompson, Barnes Building, Muskogee, Secretary.

Pacific Northwest Medical Association, Butte, Montana, July 1-3. Dr. Frederick Epplen, 639 Stimson Building, Seattle, Secretary.

Rhode Island Medical Society, Providence, June 5. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Dakota State Medical Association, Sioux Falls, May 20-22. Dr. John F. D. Cook, Langford, Secretary.

West Virginia State Medical Association, White Sulphur Springs, May 20-22. Mr. Joe W. Savage, Box 1541, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Review Tuberculosis, Baltimore

21: 423-586 (April) 1930

*Tuberculous Infection in Infancy. J. A. Myers and L. M. Kernkamp, Minneapolis.—p. 423.
Tuberculous Infection in Childhood. J. A. Myers, Minneapolis.—p. 479.
*Tuberculosis Among Girls and Boys in Their Teens. J. A. Myers and L. M. Kernkamp, Minneapolis.—p. 509.
Tuberculous Infection Among Adults. H. D. Lees and J. A. Myers, Minneapolis.—p. 532.
*Significance of Tuberculosis Among Aged. J. A. Myers and H. R. Anderson, Minneapolis.—p. 541.
Dangers of Insidious and Acute Onsets in Pulmonary Tuberculosis. J. A. Myers, Minneapolis.—p. 557.
*Pulmonary Tuberculosis in Aged. A. L. Banyai, Wauwatosa, Wis.—p. 568.
*Spontaneous Interstitial Emphysema in Pulmonary Tuberculosis. R. H. Meade and F. B. Stafford, Sanatorium, Va.—p. 579.

Tuberculous Infection in Infancy.—Of 532 infants less than 2 years of age tested with tuberculin, 296 were negative to the test on first examination, although the history showed that 233 had been exposed to tuberculosis. The remaining 236 children gave positive reactions. All but sixty-four of these were traced. Only six died of tuberculosis, four of whom had tuberculous meningitis. A few have developed tuberculous processes involving the bones and joints and cervical lymph nodes, but the vast majority are now living and apparently well. In 195 of these positive reactors there was a definite history of exposure; in twenty-two instances it was questionable and in nineteen it was negative. In forty-two cases the roentgen examination was positive. Myers and Kernkamp stress the point that the first step in the prevention of tuberculous infection and disease is prevention of exposure to tubercle bacilli. Pasteurization of milk is quite effectively practiced in Minneapolis; hence the exposures were for the most part due to human sources.

Tuberculosis Among Adolescent Girls and Boys.—Myers and Kernkamp made a study of 242 girls and boys from the teen ages to 21 years in whom they found sufficient evidence to justify a diagnosis of tuberculosis. Follow-up work has been carried on, and serial examinations have been made in a good many of these cases in an attempt to determine how the young adult responds to various forms of treatment. They have also tried to learn from the histories what seemed most responsible for the development of clinical tuberculosis. What danger signals were flashed but passed by which, if they had been recognized or heeded, might have saved long periods of invalidism and even death? In the entire group of 242 patients, 36.1 per cent gave histories of pleurisy and 7 per cent had effusion. Among those who gave histories of pleurisy, it is impossible to determine with a high degree of accuracy how many really had effusion, except when fluid was removed from the chest by the physician. The authors are convinced that there are many cases of pleurisy with small, moderate or even large amounts of fluid which are not detected. A history of frank pulmonary hemorrhage was present in 15.7 and of blood streaked sputum in 4.1 per cent. It is emphasized that the public should be better informed about the significance of pleurisy and hemorrhage. So often they are the first manifestations of tuberculosis, and if the patient is treated while the disease is early, good results are frequently obtained. A history of exposure was obtained in 59 per cent. Excessive energy expenditure was shown in 63.4 per cent, and moderate expenditure in 28.5; underweight was noted in 52.5 per cent, and a history of colds in 30.3 per cent.

Significance of Tuberculosis Among the Aged.—Thirty-seven cases of frank pulmonary tuberculosis in men and women ranging from 50 to 80 years are reported by Myers and Anderson. In nine patients there had been definite exposures to tuberculosis, usually in members of their families in early life. Among the children and grandchildren of these thirty-seven men and women, tuberculosis is known to exist in thirteen cases. The symptoms in the aged patients dated from six weeks to approximately forty-five years. In six cases hemorrhage was the first symptom and in five others it had occurred during the course of the disease. Pleurisy was the first symptom in six cases. Cough, frequent colds, bronchitis and catarrh were the first symptoms in twenty cases. On physical examination all signs were elicited from those of the most advanced disease to those of a normal chest. Tubercle bacilli were demonstrated in twenty-one cases. The cutaneous tuberculin test is of great value in chest work among the aged. Some have not been infected, others have "burned out" their infections; therefore, a negative test is of great significance. Roentgen examinations should be made in every case. In treatment such a high degree of conservatism is not necessary as is practiced among young adults. When the disease is unilateral and progressive, artificial pneumothorax may be possible. Even extrapleural thoracoplasty may be indicated in the earlier years of this age period. Tuberculosis in the aged is one of the great problems from the standpoint of epidemiology. Its danger lies in its mildness. Many cases are not diagnosed until late in life and not a few are first diagnosed at the postmortem table.

Pulmonary Tuberculosis in the Aged.—Banyai concludes from his analysis of 124 cases that in the aged good physical appearance, apparent well being, and absence of fever do not exclude tuberculosis. Pulmonary hemorrhage was present in 43.5 per cent of cases. Physical observations are often misleading because of senile changes, superimposed pulmonary conditions, and extrapulmonary complications. Roentgenologic examination and laboratory analysis are indispensable in the differential diagnosis. Though the fibrotic type of lesion was most frequently encountered, granulo-exudative and exudative processes were quite common. Complications, such as spontaneous pneumothorax, tuberculous laryngitis, tuberculosis of the kidneys, myocarditis and diabetes, as observed in this series, greatly aggravate the course of the disease. The course of tuberculosis in the aged is usually slower and longer, and the tendency toward sclerosis and calcification more marked than in the young; remissions of several months' to several years' duration occur in many cases.

Spontaneous Interstitial Emphysema in Pulmonary Tuberculosis.—The literature on the subject of spontaneous interstitial emphysema in pulmonary tuberculosis is reviewed by Meade and Stafford and a case successfully treated by multiple incisions is reported.

Annals of Surgery, Philadelphia

91: 481-640 (April) 1930

Observations on Blood Grouping and Blood Transfusion. A. M. Tiber, New York.—p. 481.
*Relation of Protein Diet to Thrombosis. C. A. Mills, Cincinnati.—p. 489.
Experiences with Sodium Amytal as General Anesthetic. R. Brown, Santa Barbara, Calif.—p. 492.
Analysis of One Hundred and Forty-Eight Operations for Goiter. C. G. Heyd, New York.—p. 496.
Mesenteric Cysts: Case of Cystic Lymphangioma. C. W. Flynn, Dallas, Texas.—p. 505.
Efficiency of Various Types of Anastomoses of Hollow Viscera. M. Behrend, Philadelphia.—p. 514.
Operative Results in Partial and Subtotal Gastrectomy for Gastroduodenal Ulcers. R. Lewisohn, New York.—p. 520.
*Curling's Ulcer. U. Maes, New Orleans.—p. 527.
Duodenitis and Duodenal Ulcer. W. L. A. Wellbrock, Rochester, Minn.—p. 533.
*Primary Solitary Diverticulitis of Cecum. R. A. Leonardo, Rochester, N. Y.—p. 540.
Intra-Abdominal Postoperative Complications of Appendicitis. A. Ochsner, I. M. Gage and E. Garside, New Orleans.—p. 544.
Peptic Ulcer of Meckel's Diverticulum and Ileum. P. W. Aschner and S. Karelitz, New York.—p. 573.
Multiple Carcinomas of Large Intestine: Sixteen Cases. J. A. Bargen and F. W. Rankin, Rochester, Minn.—p. 583.

Relation of Protein Diet to Thrombosis.—Mills feels that it is advisable to keep all patients on a low protein diet

for the first two weeks following (*a*) operations, especially splenectomy or other operations within the abdomen or pelvis; (*b*) trauma, with much tissue mutilation; (*c*) childbirth; (*d*) acute febrile diseases, such as pneumonia and typhoid; (*e*) cardiac decompensation at all times, but especially with auricular fibrillation; (*f*) phlebitis at all times. A high protein diet, with feedings every three or four hours, should be used in cases exhibiting a hemorrhagic tendency. Following childbirth it is recognized that such restriction of diet may not always be advisable on account of its effect on milk production, but this can largely be alleviated by a generous supply of carbohydrates and fats.

Curling's Ulcer.—Two cases are reported by Maes, one in a boy, with fatal result, the other in a patient who recovered and who, twenty years later, died of carcinoma, probably superimposed on the site of the original ulcer.

Primary Solitary Diverticulitis of Cecum.—A case of primary solitary diverticulitis of the cecum is reported by Leonardo. Histologic examination demonstrated the presence of a mass of circular muscle fibers in its wall, a condition which would seem to suggest the possibility of its congenital origin; and the theory that, if congenital, it represents a rudimentary appendix is considered plausible. It would seem that the standard classification of diverticula as being "false" or acquired, except a Meckel's diverticulum, may not be entirely true.

Archives of Dermatology & Syphilology, Chicago

21: 519-720 (April) 1930

Carcinoma of Oral Cavity. L. Hollander, Pittsburgh.—p. 519.
Hematogenous Infectious Diseases of Skin. J. Jadassohn, Breslau, Germany.—p. 526.
*Distribution and Excretion of Mercury. A. G. Young, F. H. L. Taylor and H. H. Merritt, Boston.—p. 539.
*Liver in Active Syphilis. S. Irgang and A. M. Sala, New York.—p. 552.
*Factorial Concept of Heredity in Relation to Disease, Especially Skin Disease. S. J. Holmes, Berkeley, Calif.—p. 558.
Granuloma Senilis. C. E. Johnson and S. C. Harvey, New Haven, Conn.—p. 566.
Madura Foot: Histology and Mycology. C. G. Aars, Paramaribo, Dutch Guiana.—p. 570.
Lichen Sclerosus Et Atrophicus (Hallopeau) and Related Cutaneous Atrophies. R. Nomland, Chicago.—p. 575.
Lymphoblastoma: Two Cases. L. K. McCafferty and G. F. Machacek, New York.—p. 595.
*Postpuncture Headaches. M. O. Nelson, Rochester, Minn.—p. 615.
Primary Syphilis of Cervix Uteri. P. F. Stookey, Kansas City, Mo.—p. 628.
Berlock Dermatitis Following Use of Perfume. P. Gross and L. B. Robinson, New York.—p. 637.
*Familial Xanthoma. U. J. Wile and W. W. Duemling, Ann Arbor, Mich.—p. 642.

Distribution and Excretion of Mercury.—Young et al. conclude that the ingestion of acids increases the rate of excretion of mercury, while the opposite effect is obtained by the ingestion of calcium (alkali). Insoluble mercury compounds injected intramuscularly are excreted over a more prolonged period than are the soluble compounds. Soluble and insoluble mercury compounds penetrate into the cerebrospinal fluid in demonstrable amounts. Mercury is stored in the bones and to a lesser extent in the liver. This is influenced by the p_H of the diet and the administration of acids or alkalis.

Liver in Active Syphilis.—In a series of 179 cases of cutaneous syphilis studied by Irgang and Sala, 25 per cent showed a positive direct delayed van den Bergh reaction. It occurred in 17 per cent of patients with secondary syphilids; 24 per cent with tertiary syphilids and four with initial lesions. In all but four of forty-five patients with positive van den Bergh reactions, the icterus index was above 6, and in these the results ranged between 4 and 6. In many of their apparently normal cases, the icterus index was above 6. In 12 per cent of 134 cases with negative reactions, the van den Bergh reaction became positive while the patients were under treatment; clinical jaundice, however, did not develop in any of these. Only 10 per cent of the twenty patients with positive reactions who were receiving from four to eight treatments developed clinical jaundice, in spite of a maximum therapeutic dosage. In 35 per cent of the positive cases, the reaction became vegetative during treatment.

Factorial Concept of Heredity in Relation to Disease, Especially Skin Disease.—Holmes asserts that evidence exists indicating an hereditary factor in such skin conditions as albinism, allergic disturbances, angioneurotic edema, cretinism, eczema, epidermolysis bullosa, hypotrichosis, ichthyosis, monilethrix, pemphigus connatus and tylosis.

Postpuncture Headaches.—Nelson presents evidence in support of the hypothesis that leakage is the cause of postpuncture headache.

Familial Xanthoma.—Wile and Duemling record an instance of familial xanthoma in two sisters occurring with a most extraordinarily symmetrical distribution. Chemical studies of the cases suggest that the etiology of familial xanthoma should be looked for in a congenital or hereditary disorder of fat metabolism, in some instances, at least, undoubtedly associated with patients who are potential diabetic subjects.

Archives of Internal Medicine, Chicago

45: 481-646 (April) 1930

*Prolonged Treatment of Exophthalmic Goiter by Iodine Alone. W. O. Thompson, P. K. Thompson, A. G. Brailey and A. C. Cohen, Boston.—p. 481.
*Size of Heart in Experimental Hyperthyroidism. J. P. Simonds and W. W. Brandes, Chicago.—p. 503.
*Bilateral Absence of Pulse in Arms and Neck in Aortic Aneurysm. R. H. Kampmeier, Pueblo, Colo., and V. F. Neumann, Detroit.—p. 513.
Abdominal Exploration in Cases Diagnosed Cholecystitis or Cholelithiasis Before Operation. A. B. Rivers and H. R. Hartman, Rochester, Minn.—p. 523.
Time Factor in Action of Pancreatic Enzymes. L. Martin, Baltimore.—p. 535.
*Antiasthmatic Efficiency of Epinephrine, Ephedrine and Atropine. O. W. Barlow and J. F. Frye, Cleveland.—p. 538.
Insulin Inactivation by Human Blood Cells and Plasma in Vitro. S. Karelitz, P. Cohen and S. D. Leader, New York.—p. 546.
Chronic Ulcerative Colitis. J. A. Bargen, Rochester, Minn.—p. 559.
Value of Indican Determination in Blood in Cases of Renal Insufficiency. B. L. Monias and P. Shapiro, Chicago.—p. 573.
Carotinemia and Diabetes: II. Relationship Between Sugar, Cholesterol and Carotin Contents of Blood Plasma. I. M. Rabinowitch, Montreal, Canada.—p. 586.
*Orthopnea: Relation to Increased Venous Pressure of Myocardial Failure. A. C. Ernstene and H. L. Blumgart, Boston.—p. 593.
*Blood in Lipoid Nephrosis. D. L. Wilbur and G. E. Brown, Rochester, Minn.—p. 611.
Pulmonary Atelectasis as Complication of Bronchial Asthma. J. A. Clarke, Jr., Philadelphia.—p. 624.
Tetralogy of Fallot: Case. L. M. Blackford, Atlanta, Ga.—p. 631.
*Spasm-Producing Substance in Sputum of Patients with Bronchial Asthma. J. Harkavy, New York.—p. 641.

Prolonged Treatment of Exophthalmic Goiter by Iodine Alone.—Twenty-four patients with exophthalmic goiter (fourteen mild and ten severe or moderately severe cases) have been treated by Thompson et al. with iodine alone (compound solution of iodine), either continuously or intermittently for periods ranging from one and one-half months to three years. The period of treatment was a year or more in thirteen instances. With three exceptions (all unsatisfactory responses to iodine) the patients pursued their daily work throughout the period of observation, thus eliminating the effect of rest. In nine of the fourteen mild cases the results were satisfactory; i. e., the clinical evidence of thyrotoxicosis was either completely or almost entirely kept under control, and the basal metabolism was kept at a normal level. In four of these nine cases (in which iodine was omitted from ten to sixteen months) the disease has apparently disappeared, and in three others in which it has been omitted from four to seventeen weeks there has been no recurrence of symptoms. In three of the fourteen mild cases the results were fairly satisfactory; i. e., there was definite improvement in spite of tardiness or fluctuations in the response. In two mild cases the results were unsatisfactory; the disease did not become worse, however, on iodine. In the ten severe or moderately severe cases, the results were satisfactory in one; there was no permanent satisfactory benefit in four, and the disease became worse in five.

Size of Heart in Experimental Hyperthyroidism.—Simonds and Brandes found that feeding 10 Gm. of desiccated thyroid daily to healthy dogs can cause an actual hypertrophy of the heart. This hypertrophy is related to the loss of body weight, and occurs in those animals which have lost approxi-

mately from 25 to 35 per cent of their original body weight. When the loss of weight exceeds approximately 35 per cent, the heart loses the weight it has gained in hypertrophy and the heart weight-final body weight ratio approaches that seen in simple inanition. This hypertrophy involves all the chambers of the heart, with a slightly greater proportional increase in the left ventricle.

Bilateral Absence of Pulse in Arms and Neck in Aortic Aneurysm. — Three available case reports of the bilateral absence of pulse in the radial, brachial and carotid arteries have been collected by Kampmeier and Neumann from the literature, and a fourth case is added. Syphilis was unquestionably present in the four cases; in three there was aneurysm of the aorta. Attacks of dizziness leading to syncope were the most striking symptom in each of the patients suffering from aneurysm with absence of arterial pulse in the neck and upper extremities.

Antiasthmatic Efficiency of Epinephrine, Ephedrine and Atropine. — Studies made by Barlow and Frye of the antiasthmatic efficiency of epinephrine, ephedrine and atropine on the course of comparable induced attacks of asthma, as well as the routine use of these drugs in producing relief from allergic or reflex attacks over a three year period, showed that the efficiency of these drugs from greatest to least was in the order named; i. e., epinephrine was effective in all attacks; ephedrine was most effective in relieving mild attacks or as a preventive, while atropine was unsatisfactory for either acute or mild attacks.

Relation of Orthopnea to Increased Venous Pressure of Myocardial Failure. — A theory of the mechanism of orthopnea in uncomplicated myocardial failure of the congestive type is offered by Ernstene and Blumgart, based on the fact that increased cerebral venous pressure diminishes intracranial blood flow, thereby favoring increased anoxemia of the respiratory center. Accordingly, a patient with myocardial failure and increased venous pressure always tends to maintain an elevation in bed sufficient to keep the respiratory center above the meniscus of the column of venous blood extending upward from the right auricle. In the upright position, the pressure in the veins about the respiratory center is kept more nearly normal than in any other position, and the blood flow in the capillaries feeding these veins is increased to the maximal limit set by the existing myocardial failure. In order to test the validity of the hypothesis, eighty-two comparisons of the height of venous pressure and the degree of orthopnea were made in twenty-two patients with uncomplicated myocardial failure of the congestive type. A parallelism between the two measurements was observed. In general, it was found that the higher the venous pressure, the greater was the orthopnea. When orthopneic patients were placed in the recumbent position with the head flat, simple elevation of the head by flexion of it on the thorax produced, almost without exception, conspicuous diminution of respiratory distress. This procedure favors diminution of the cerebral venous pressure but has no significant effect on the vital capacity of the lungs. These observations strongly support the venous pressure theory of orthopnea. In striking contrast to the definite correlation between the venous pressure and the degree of orthopnea, no such correlation was observed between the percentage reduction of the vital capacity of the lungs and the degree of orthopnea. The extent of the diminution of the vital capacity of the lungs does not appear to be an important factor in determining the degree of elevation which gives the patient maximum relief. Orthopnea of necessity was observed in patients in whom the vital capacity of the lungs was not significantly increased by changing from the recumbent to the sitting position. Although various factors contribute to the relief experienced in the sitting position, observations indicate that in all patients with congestive heart failure and increased venous pressure, the relatively low cerebral venous pressure in the upright posture is the primary factor in reducing the respiratory discomfort.

Blood in Lipoid Nephrosis.—In only one of twenty-five carefully selected cases of pure nephrosis studied by Wilbur and Brown did the erythrocyte and hemoglobin values show anemia. The leukocyte and differential counts were normal. In a similar series of twenty-six cases of mixed nephritis of the nephrotic type, the erythrocytes and hemoglobin values showed anemia in nineteen (73 per cent). In glomerular nephritis and mixed nephrosis, anemia is common, especially in the presence of renal insufficiency; it is of definite prognostic value. Cases of nephrosis in which signs and symptoms of glomerular nephritis develop show a gradually developing anemia. The volume of blood in cases of nephrosis, according to corrected body weight, is slightly above the mean value for normal persons. The presence or absence of anemia in doubtful cases of renal disease with edema is probably of some diagnostic, and of definite prognostic, value.

Spasm-Producing Substance in Sputum of Patients with Bronchial Asthma.—Harkavy found that the sputum of sensitive, asthmatic patients contained an alcohol-soluble substance which is capable of stimulating the contraction of smooth muscle. This substance was absent from the sputum of nonsensitive, asthmatic subjects and of those without asthma. The rusty sputum of patients with lobar pneumonia and with bronchopneumonia gave a positive reaction, but the effect may be attributed to the presence of blood, as blood-free sputum from patients with resolving pneumonia gave no reactions. The exact nature of the spasm-producing substance in the sputum was not elucidated.

Canadian M. Assn. Journal, Montreal

22: 465-618 (April) 1930

Reflections on Increasing Mortality from Tuberculosis in Women. G. B. Roatta, Florence, Italy.—p. 465.
Obstetric Practice Yesterday and Today. C. B. Oliver, Chatham, Ont. —p. 469.
Traumatic Rupture of Bladder and Urethra: Thirty-Six Cases. N. E. Berry, Montreal.—p. 475.
Diseases and Anomalies of Ureters. R. A. McComb, Toronto.—p. 484.
Serum Treatment of Pneumonia. E. S. Mills, Montreal.—p. 488.
Sciatica. A. P. MacKinnon, Winnipeg.—p. 492.
Mikulicz's Disease: Case. L. Barclay, Toronto.—p. 498.
Blastomycosis of Eye. S. H. McKee, Montreal.—p. 501.
Subacute Malignant Endocarditis. H. McPhedran, Toronto.—p. 504.
Pseudomyxoma Peritonaei Secondary to Ovarian Cystadenoma. J. C. Masson and R. A. Hamrick, Rochester, Minn.—p. 508.
Education of Abnormal Children. J. C. Miller and A. Pelletier, École La Jemmerais, Quebec.—p. 512.
Psychopathic Disorders Among Ex-Service Men. R. H. Angrove, Ste. Anne de Bellevue, Que.—p. 515.
Inhalation of Pure Oxygen in Treatment of Disease. J. H. Evans, Buffalo, N. Y.—p. 518.
Heart and General Practitioner. G. C. Hale, London, Ont.—p. 523.
Damage Caused to Eye by Strong Light. G. H. Mathewson, Montreal. —p. 526.
Hemochromatosis, Diabetes Mellitus, Primary Carcinoma of Liver. W. D. Keith and A. Y. McNair, Vancouver.—p. 528.
Sudden Death from Pulmonary Intra-Alveolar Hemorrhage in Case of Asthma Associated with Pneumonia. H. E. MacDermot, Montreal.—p. 533.
Congenital Web of Larynx. G. E. Hodge, Montreal.—p. 535.
Gangrene of Both Lower Extremities. J. O. Baker and P. H. Sprague, Edmonton.—p. 536.
Diverticulum of Urethra in Female: Case. R. V. B. Shier, Toronto.—p. 539.

Journal of Lab. & Clin. Medicine, St. Louis

15: 623-712 (April) 1930

*Effect of Colitis on Gastric Digestion. J. I. Farrell, Cleveland.—p. 623.
Isohemagglutinins in Lower Animals. G. B. Lawson and K. T. Redfield, Roanoke, Va.—p. 629.
*Comparison of Blood Pressure, Blood Urea Nitrogen, Phenolsulphonphthalein, and Urine Tests in Aged. J. H. Musser, New Orleans, and A. W. Phillips, Philadelphia.—p. 633.
*Modification in Method of Auscultatory Percussion. L. M. Tocantins, Cleveland.—p. 638.
Fermentation of Monosaccharids by Organisms of Abortus-Melitensis Group. M. B. Coleman, H. H. Owen and H. G. Dacey, Albany, N. Y. —p. 641.
New and Simplified Mechanical Air Filter in Treatment of Hay-Fever and Pollen Asthma. M. M. Peshkin and I. Beck, New York.—p. 643.
Cystoscopy in Male and Female Dogs. V. Vermooten, New Haven, Conn. —p. 650.
New Pump Design for Artificial Respiration with Several Variable Features. M. B. Visscher and A. G. Mulder, Memphis, Tenn.—p. 657.
Thionin Counterstain for Levaditi Tissue. J. R. Lisa and L. J. Biro, New York.—p. 660.
Alexin and Antialexic Bodies in Relation to Blood Culture Technic. L. G. Hadjopoulos and R. Burbank, New York.—p. 662.
*Permanent Color Standards for Blood Bilirubin. M. S. Nichols and J. W. Jackson, Madison, Wis.—p. 672.

Heating of Serum in Kahn Reaction. M. B. Kurtz, Lansing, Mich.—p. 678.
Müller's Conglobation Reaction for Diagnosis of Syphilis. Z. M. Flinn, Nova Scotia.—p. 682.
Microscopic Slide Precipitation Test for Syphilis with Unheated Serum. B. S. Kline, Cleveland.—p. 686.
Method for Determination of Calcium Content of Pus. M. Beber and S. S. Pinto, Omaha.—p. 693.

Effect of Colitis on Gastric Digestion.—Farrell gives data showing that gastric secretion is depressed in both mild and severe colitis, because the negative factors of discomfort, diarrhea and toxemia submerge any positive effect that partial starvation may have on the appetite secretion. In this connection it is striking that the negative factors are also sufficient to submerge the positive effect of more prolonged contact of the food with the stomach, which under normal conditions enhances gastric secretion. The results show that a mild colitis hastens slightly the emptying of the stomach but that a severe colitis retards the emptying. After recovery from the colitis, the emptying time of the stomach returns to normal.

Blood Pressure, Urea Nitrogen, Phenolsulphonphthalein and Urine Tests in Aged.—A group of fifty individuals past the age of 70 years was studied by Musser and Phillips in an outpatient clinic to determine, first, whether old age is often responsible for the usual manifestations of nephritis, and, secondly, presuming such to be the case, which, if any, particular functional disturbance was of the greatest importance. From this study it may be assumed that in outpatient work it is impossible to rely on any single test of kidney function; one may be abnormal with the others normal. The test most difficult to perform in the dispensary, that with phenolsulphonphthalein, is the one most likely to show abnormalities; the blood pressure test, the least. In individuals past the age of 70, 88 per cent will give evidence of renal involvement based on one or another of the criteria of elevation of blood pressure, a lowering of phenolsulphonphthalein output, an increase in blood nitrogenous waste products and the presence of albumin and casts in the urine.

Modification in Method of Auscultatory Percussion.—A method of auscultatory percussion is presented by Tocantins differing from the one in use in that, instead of placing the chest piece of the stethoscope directly over the organ, structure, area of fluid or consolidation to be outlined, one places it away from the area, over a resonant or tympanitic region, and percussion is made toward the area whose borders are to be defined.

Permanent Color Standards for Blood Bilirubin.—A simplified technic for the colorimetric determination of blood bilirubin is given by Nichols and Jackson. While van den Bergh's method for this determination is followed up to the colorimetric comparison, the latter comparison is simplified so that a determination of blood bilirubin can be made as easily as a phenolsulphonphthalein function test. Clinical results are given to show the degree of accuracy to be expected as compared with the old colorimeter method.

Medical Journal & Record, New York

131: 337-388 (April 2) 1930

Doctor on Witness Stand. J. R. Rosen, New York.—p. 337.
Teeth and Toes. P. K. Jenkins, Miami Beach, Fla.—p. 341.
Otology in Children. E. M. Freund, Albany, N. Y.—p. 342.
Acute Mercuric Chloride Poisoning, Treated by Lambert Method with Recovery: Case. S. Stalberg, Atlantic City, N. J.—p. 346.
Eliminating Facial Scars. H. O. Bames, Los Angeles.—p. 348.
Blood Pressure in Syncope. L. M. Tocantins, Cleveland.—p. 350.
Study of 1,100 Dextrose Tolerance Tests. H. J. John, Cleveland.—p. 351.
Dosage and Administration of Strophanthin. E. E. Cornwall, New York.—p. 355.
*Continuous Auricular Flutter for Three Years. A. S. Hyman, New York.—p. 357.
Newer Viewpoints in Cardiac Diagnosis. J. Polevski, Newark, N. J.—p. 360.
*Cardiac Pain and Periarthritis of Shoulder. T. Howard, New York.—p. 364.
Combined Use of Magnesium Sulphate and Salyrgan as Diuretic in Cardiac Edema. D. H. Shelling, Baltimore, and L. Tarr, New York.—p. 365.
Coronary Infarct and Angina with Abdominal Symptoms. G. Werley, El Paso, Texas.—p. 367.
Treatment of Chronic Arthritis with Biologic Products of Streptococcus Cardioarthritidis. A. Cohen, Philadelphia.—p. 371.
California Medicine. J. W. Shuman, Los Angeles.—p. 373.

Continuous Auricular Flutter for Three Years.—A case of auricular flutter continuing for more than three years is presented by Hyman. Electrocardiographic and polygraphic studies showed a well established flutter with a constant auricular rate of 300 and a rather regular ventricular rate of 74 beats a minute. The P waves in these tracings were large and well formed. Postmortem examination revealed a well developed muscle band system throughout the entire left auricle. Histologic examination of this muscle band system revealed certain fibers that suggested Purkinje system filaments. The conception of the left auricle exhibiting the hemodynamic and electrodynamic functions of an accessory ventricle is considered in explaining the mechanism of continuous flutter and the electrocardiographic records that are found in this condition.

Cardiac Pain and Periarthritis of Shoulder.—Howard reports five cases illustrating the presence of a stiff and painful shoulder together with such serious sources of referred shoulder pain as coronary sclerosis, syphilitic aortitis and cardiac infarct. The left shoulder was involved four times and the right shoulder once, the latter being in a patient with referred pain in both arms. The time relation of the onset of the referred pain and of the periarthritis of the shoulder was variable in these cases. Howard says there are several reasons why it is important to recognize this association of two conditions. In the first place, the pain of a periarthritis in the shoulder may be mistaken for severe and intractable cardiac pain, and the prognosis be unduly unfavorable. In the second place, the shoulder disease may be discovered and the cardiac condition overlooked. Finally, if one is on the lookout for the development of a stiff and painful shoulder in the presence of a painful cardiac condition, much can be done to give reasonably prompt relief or prevent its development by physical therapeutic methods. Massage, passive movement and, if possible, active exercises of the joint tend to improve the tone of the tissues about the joint, and so correct the most important factor in the development of this condition.

Military Surgeon, Washington, D. C.

66: 463-612 (April) 1930

Report of Fifth International Congress of Military Medicine and Pharmacy. W. S. Bainbridge.—p. 463.
Tuberculosis and Control: Tuberculosis in Armies. H. J. Corper.—p. 512.
Radiant Energy (Second Paper). F. M. Hartsock.—p. 523.
Subacute Bacterial Endocarditis: Cases. T. W. Burnett.—p. 527.
Spinal Anesthesia in Army. J. M. Troutt.—p. 535.
Filipiniana. L. L. Gardner.—p. 539.

Minnesota Medicine, St. Paul

13: 209-280 (April) 1930

Relationship Between Childhood and Adult Types of Tuberculosis. J. A. Myers, Minneapolis.—p. 209.
*Incidence of Tuberculous Infection in School Children. R. H. Frost, Wabasha.—p. 216.
Teachings of Medical Experience. G. D. Head, Minneapolis.—p. 219.
Use of Barbituric Acids, Acetylene, Spinal Anesthesia, Tribromethyl Alcohol and Other Anesthetics in Mayo Clinic in 1929. J. S. Lundy, Rochester, Minn.—p. 223.
Adenomatous Polyps of Colon and Rectum. H. E. Hullsiek, St. Paul.—p. 229.
Postoperative Hypothyroidism. M. G. Gillespie, Duluth.—p. 235.
Early or Late Operative Treatment in Complications of Acute Otitis Media. J. J. Hochfilzer, St. Paul.—p. 238.
Problems in Plastic Surgery of Nose. G. B. New, Rochester, Minn.—p. 242.
Affections of Round Ligament: Double Tuberculous Hydrocele. E. M. Jones, St. Paul.—p. 247.
Differentiation Between Acute Appendicitis and Acute Prostatitis and Seminal Vesiculitis: Two Cases. W. P. Herbst, Minneapolis.—p. 252.

Incidence of Tuberculous Infection in School Children.—Pirquet tests were made by Frost on 482 children in the public and parochial schools of Wabasha, Minn., a community of approximately 2,500 persons. These children constituted approximately 80 per cent of the combined enrolment of the city's two school systems. Of the 482 children examined, 223 were boys and 259 were girls. Their ages ranged from 5 to 20 years and the number of individuals in each age group was fairly uniform, with the exception of the youngest and the oldest. Of the total number, 22.4 per cent reacted positively, these reactions being remarkably uniformly distributed between the boys and the girls—22.8 and 22 per cent, respectively.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British J. Bio-Physics, London

2: 95-112 (March) 1930

Rôle of Actinotherapy in Public Health. A. Furniss.—p. 97.
Cure of Rheumatism by Physical Treatment. C. E. Sundell.—p. 99.
Physical Treatment of Disease. E. Browning.—p. 102.
Therapeutic Uses of Static or Franklinic Electricity. F. W. Alexander.—p. 104.

British Medical Journal, London

1: 525-576 (March 22) 1930

*Predestination in Disease. W. L. Brown.—p. 525.
*Undetected Syphilis and Rheumatic Infection in Childhood. A. D. Fordyce.—p. 530.
*Throat Infections as Etiologic Factor in Puerperal Fever. W. W. King.—p. 533.
Spontaneous Inoculation of Melanotic Sarcoma from Mother to Fetus: Case. F. P. Weber, E. Schwarz and R. Hellenschmied.—p. 537.
Aphonia, Dysphonia and Singer's Attitude. J. Dundas-Grant.—p. 539.
Disseminated Sclerosis. F. Coates.—p. 539.
Primary Ovarian Pregnancy. D. H. Davies and T. M. Strang.—p. 540.
Acute Pancreatitis: Unusual Case. H. B. Pierce and D. J. Harries.—p. 541.

Predestination in Disease.—Brown discusses modern views on diathesis or proclivity to certain diseases. He says: There are peculiarities of metabolism in some individuals which may take the form of a lack of some ferment or important secretion, or may display itself in an intolerance to the assimilation of substances to which the ordinary individual is immune. Some start out with an inadequate supply of endocrines or with a disturbance in the balance between the two great divisions of the visceral nervous system—the sympathetic and parasympathetic or extended vagus. The very posture of the viscera will modify the type of disease produced by similar causes. These predispositions to disease can be shown in many instances to be inherited according to mendelian laws and to reside in the chromosomes of the nuclei of the gonads. It might be thought that they would be such a handicap in the struggle for existence that they would lead to their own disappearance by the destruction of the individuals possessing them. In some cases this is so, but we must remember that a defect which is not fatal to propagation will continue to be propagated—not perfection, but survival, is nature's aim. But the importance of a knowledge of the family history is greatly enhanced by these recent observations, and for that knowledge we must depend on the general practitioner, who is, and must continue to be, the backbone of the profession.

Undetected Syphilis and Rheumatic Infection in Childhood.—Nine cases of rheumatic infection in congenital syphilitic children are described by Fordyce; in six of the nine cases there were no obvious signs of congenital syphilis. It is suggested that undetected syphilis may in some cases form a basis for the serious course of rheumatic infection, and, further, that the study of rheumatism may be aided by the grouping of rheumatic cases along nonrheumatic lines.

Throat Infections as Etiologic Factor in Puerperal Fever.—An analysis made by King of the twenty-four cases brings out the following points: eleven of the patients were primiparas, and thirteen had had one or more children. Labor was natural in twenty (83.5 per cent) and operative in four (16.5 per cent). Some form of compound solution of cresol was the most commonly used antiseptic, but cases occurred in spite of the use of efficient antiseptics, and of every modern aseptic method except masks. No further cases occurred after masks were worn, in spite of the fact that known carriers had to be kept on duty. He concludes that the spread of hemolytic streptococcal infection from the throats of carriers to women in labor is a factor in the etiology of puerperal fever. He urges that masks of suitable material, completely covering the mouth and nose, should be worn by all persons present whenever the vulva is exposed during labor or the puerperium. Nurses and patients with even slight sore throats should be isolated from lying-in wards. The first rise in temperature should necessitate an immediate vaginal or cervical test for hemolytic streptococci. If positive, the throats of contacts must be examined, and any carrier removed from the wards. Physicians in private practice should have their throats examined at frequent intervals. If they are treating a case of puerperal sepsis, they should, for their own protection, have the throat of the patient and of all contacts examined.

Journal of Tropical Med. & Hygiene, London

33: 77-92 (March 15) 1930

Cholera and Agglutinations of Cholera Convalescent Serum. F. J. Palmer.—p. 77.
*B. Lactis-Aerogenes Bacillemia: Case. R. G. Archibald.—p. 80.

B. Lactis-Aerogenes Bacillemia.—An account is given by Archibald of a case of pyrexia and diarrhea in which *B. lactis-aerogenes* was found in the blood and urine. The bacillus was obtained by hemoculture on the eighth and also on the twelfth day of the illness as well as by urine culture on the fourteenth day. The patient's serum agglutinated the bacillus in a dilution of 1 in 80. A van den Bergh test with the patient's blood serum gave a direct delayed reaction. The patient's general condition became steadily worse and on the nineteenth day the temperature reached 106 F., accompanied by mental hebetude and muscular twitchings; this was followed by pericarditis and endocarditis and a fatal result on the twenty-third day after admission to the hospital.

Lancet, London

1: 607-672 (March 22) 1930

Incidence of Rheumatic Diseases. J. A. Glover.—p. 607.
*Disseminated Sclerosis. J. A. B. Hicks, F. D. M. Hocking and J. Purves-Stewart.—p. 612.
Smallpox and Vaccination in Light of Modern Knowledge. J. McIntosh.—p. 618.
Three New Instruments for Obtaining and Working Fascial Sutures. T. J. D. Lane and T. A. Austin.—p. 622.
*Fetor Oris of Tonsillar Origin and Certain Bacilli Causing It. A. Castellani.—p. 623.
Hermaphroditism: Case. J. Glaister.—p. 624.
Aid to Operations on Infants. D. Browne.—p. 624.

Disseminated Sclerosis.—Hicks et al. report on the results of their experimental work with Chevassut's virus obtained from the cerebrospinal fluid in cases of disseminated sclerosis. This virus is readily killed with phenol saline solution, and suspensions of it can be used as experimental vaccines and administered intravenously without harm. There is some evidence that after the administration of a virus suspension to patients and to rabbits, inhibitory substances are formed in their serums. There is no similar evidence in the case of monkeys. No complement fixation phenomena can be observed in patients who have disseminated sclerosis or who have had vaccines administered. The serums of rabbits which have received injections of virus also show no complement fixation. No immediate harm results from the injection of large doses of the unkilled virus, but in two monkeys certain systemic tract degenerations were detected in the cord ten months later. It is not stated that these lesions are disseminated sclerosis but their presence is suggestive. It seems highly probable that the best experimental results will be obtained by the intravenous route.

Fetor Oris of Tonsillar Origin and Certain Bacilli Causing It.—Castellani has discovered that fetor oris of tonsillar origin is always associated with the presence of two bacilli for which he proposes the names *Bacillus colofoetidus* and *Bacillus alkalofoetidus.*

Medical Journal of Australia, Sydney

1: 339-374 (March 15) 1930

*Experimental Renal Disease Produced by Roentgen Rays: Production and Functional Study of Standardized Lesion. A. Bolliger and M. S. S. Earlam.—p. 340.
Relative Liability of Australians, British-Born and Foreigners to Show Tuberculous Lesions in Australia. J. B. Cleland.—p. 355.
Nonoperative Treatment of Cervicitis. R. F. Matters.—p. 356.
Wide Propagation of Cardiac Murmur. G. Griffiths.—p. 357.

Experimental Renal Disease Produced by Roentgen Rays.—A renal lesion of fairly constant intensity culminating in death within forty days from renal insufficiency, provided the opposite kidney has been removed, has been consistently produced by Bolliger and Earlam in dogs of medium size by a

simple technic. In the latter part of the disease, urea retention, acidosis and hypercholesterolemia occur. The lesion obtained is a nephrosis of a lipoid type preceded by a transient acute nephritis and merging, if circumstances allow, into a chronic interstitial nephritis. In the course of the disease definite edema, with no apparent basis other than the renal lesion, was frequently observed. In dogs of larger size the renal injury was less and the expectation of life was prolonged for various periods, varying with the weight of the dog. It is asserted that the standardized disease produced in dogs of medium size may be used for the purpose of any research on the diagnostic, metabolic or therapeutic aspect of nephritis.

Annales des Maladies Vénériennes, Paris

25: 81-159 (Feb.) 1930

Treatment of Gastric Syphilis. G. Leven.—p. 81.
Treatment of Syphilis in Sixteenth Century. Kirschberg.—p. 88.

Archives de Médecine des Enfants, Paris

33: 65-128 (Feb.) 1930

*Measles and Tuberculosis. P. Nobécourt, R. Liège and A. Herr.—p. 65.
Infantile Hysteria: Variations of Some Clinical Manifestations. L. Tixier.—p. 90.

Relation Between Measles and Tuberculosis.—Nobécourt et al. conclude that tuberculosis does not have a notable influence on the evolution of measles, but measles in some cases was found to play a part in the development of tuberculosis. Measles may initiate pulmonary tuberculosis in apparently healthy children. Moreover, only 62 per cent of children who die from tuberculous meningitis have had measles shortly before the tuberculous condition appears.

Bulletin de la Soc. d'Obst. et de Gynéc., Paris

19: 1-104 (Jan.) 1930

Sarcoma of Uterus. P. Moulonguet and S. Dobkevitch.—p. 25.
Sarcoma of Uterus: Case. P. Séjournet.—p. 26.
Sterilization by End-to-End Suture of Uterine Tubes. N. Kouchtaloff.—p. 29.
Displacements of Uterus: Reinforcement of Round Ligament by Aponeurosis. N. Kouchtaloff.—p. 30.
Delivery Under Spinal Anesthesia. Delalande.—p. 32.
Indications for Cesarean Operations. C. R. Cabetto.—p. 33.
*Cardiopathies in Relation to Pregnancies. F. Carreras and C. Cortes.—p. 35.
*Aggravation of Tumors of Ovary Through Roentgen Therapy. J. L. Faure.—p. 43.
Early Diagnosis of Pregnancy by Examination of Urine. A. Brindeau.—p. 48.
Cleft Palate Complicated by Unilateral Anophthalmos. Schwaab and Housset.—p. 48.
Premature Rupture of Fetal Membranes: Delivery of Normal Child. Schwaab and P. Walther.—p. 50.
Diabetes and Pregnancy: Case. Devraigne, G. Boquel and Ducas.—p. 51.
*Intra-Uterine Transmission of Tuberculosis. Lévy-Solal, Oumansky and Jeannet.—p. 54.

Cardiopathies in Relation to Pregnancies.—Carreras and Cortes point out that a thorough examination is essential in the determination of a true cardiopathy during pregnancy. Of 104 pregnant women who had complained of cardiac symptoms, sixty were found to be normal. Ten of these showed at first unusual symptoms, but clinical and roentgen examination disclosed the true condition. In sixteen women mitral stenosis was noted and nineteen had cardio-aortic lesions due to syphilis. In seven patients insufficiency of the valves persisted and one patient had coronary aortitis. According to the authors, it is the occurrence of mitral stenosis as a complication of pregnancy that necessitates especial attention, as other heart conditions are more easily overcome.

Stimulation of Growth of Tumors of Ovary Through Roentgen Therapy.—A woman, aged 45, in whom a diagnosis of fibroma had been made, was given four roentgen irradiations. However, they were not well supported and after the fourth treatment, given about four weeks after examination, a considerable increase in the size of the abdomen was noted. Operation disclosed a fibroma of the uterus and voluminous cystic tumors of both ovaries. Faure points to the disastrous effect of roentgen irradiation on ovarian cysts and advises radiation treatment of tumors only when it can be demonstrated with certainty that cysts are not present.

Intra-Uterine Transmission of Tuberculosis.—Lévy-Solal et al. present the clinical history of a woman with pulmonary tuberculosis who died several days after having given birth to a child. The infant had been immediately isolated from the mother and had died two hours after delivery. At necropsy no pathologic changes were noted in the organs nor were tubercle bacilli found; however, the mesenteric lymph nodes appeared to be slightly enlarged and a mild tracheobronchial adenopathy was present. Two guinea-pigs that were inoculated with the crushed lymph nodes showed a marked adenopathy after several weeks, which, however, regressed. One animal was killed forty days after the inoculation and an inguinal lymph node as well as bronchial nodes were again crushed and injected into two other animals. Careful examination had disclosed two acid-fast bacilli in one of the bronchial lymph nodes. One month after the inoculation the second series of animals showed a considerable adenopathy and lesions at the site of inoculation. Necropsy done two weeks later disclosed a generalized tuberculosis of the viscera in which numerous bacilli were present.

Bull. et Mém. de la Soc. Méd. des Hôpitaux de Paris

(54): 77-127 (Feb. 3) 1930

Azotemia Due to Sodium Chloride Deficiency. L. Blum.—p. 78.
Azotemia and Hypochloremia in Patients with Nephritis. F. Rathery.—p. 81.
*Gelatinous Ascites in a Man. Chiray and J. Lelourdy.—p. 84.
*Cruveilhier-Baumgarten's Cirrhosis of Liver: Two Cases. N. Fiessinger and L. Michaux.—p. 88.
*Hemorrhagic Colorectitis: Liver Treatment. A. Cain and J. A. Lièvre.—p. 92.
Neuro-Anemic Syndrome: Liver Treatment. C. Dimitracoff.—p. 97.
Subacute Yellow Atrophy of Liver. N. Fiessinger and G. Albot.—p. 102.
Epigastric, Biliary and Appendicular Pain Due to Recurrent Fever. G. Delamare.—p. 109.
*Experimental Hyperbilirubinemia as Liver Function Test. P. L. Drouet.—p. 110.
Sensitization to Ipecac. C. Gautier and E. Joltrain.—p. 117.

Gelatinous Ascites in a Man.—Although of frequent occurrence in women, this condition is rare in males. Chiray and Lelourdy's patient, a man, aged 60, noted a gradual increase in the size of the abdomen coincident with loss of weight. Four times within the following months 5 liters of a gelatinous fluid was withdrawn by puncture from the abdomen at each intervention. Although laparotomy was not done, the authors point to endothelioma of the peritoneum as a probable cause of the condition as no symptoms of appendicular or other intestinal involvement could be incriminated.

Cruveilhier-Baumgarten's Cirrhosis of Liver Not a Disease Entity.—After a discussion of the cases reported in the literature, and on the basis of their personal experience, Fiessinger and Michaux conclude that there is no reason to accept Cruveilhier-Baumgarten's cirrhosis of the liver as a disease entity. The clinical histories of two patients who had symptoms of the disease of the type described by Eppinger, Chauffard and others are expounded. The cirrhosis is noted without, however, predominence or primary occurrence of the symptoms of splenomegaly. Characteristic are the enlarged subcutaneous veins below the umbilicus, which are due to an abnormal permeability of the umbilical vein. The authors accept an anatomic predisposition in the etiology of this condition which does not suffice in the establishment of an anatomicopathologic unity. Caution regarding surgical intervention is advised and the importance of liver function tests, especially in regard to the chromatogenous action, is emphasized.

Hemorrhagic Colorectitis: Liver Treatment.—For four months previous to her admission to the clinic, Cain and Lièvre's patient, aged 26, had been suffering from rectal hemorrhage which was thought to be caused by hemorrhoids. There was considerable constipation coincident with a persistent high temperature. Proctoscopy disclosed an acute rectosigmoiditis with intense congestion of the mucous membrane and hemorrhagic infiltrations but without signs of ulceration. Bacteriologic examinations did not disclose any specific bacilli, and treatment with drugs and vaccines did not lead to improvement in the condition. Gradually a painful aphthous stomatitis developed, followed by a polymorphous eruption with tender nodular infiltrations and accompanied by pain in the joints. Her condition

improved slightly after four weeks, although the mucous membrane was extremely hyperemic and bleeding was still frequent. Eight months later the patient reentered the clinic in a more critical condition than previously. For two months all attempts at treatment were without result till liver extract was administered coincident with the ingestion of fresh calf's liver. Improvement was noted immediately and within five days blood was no longer passed in the stools. The erythrocyte and leukocyte counts increased and the patient gained rapidly in weight.

Experimental Hyperbilirubinemia as Liver Function Test.—Drouet observed variations of bilirubinemia after injection of epinephrine into persons without apparent disorders of the liver and on this basis developed his test. He found that in twelve patients with various diseases of the liver (with the exception of one patient with a liver condition due to alcoholic excess who was on the way to recovery), the bilirubin content of the blood remained increased for from one and one-half to two hours after the injections, whereas in healthy persons it was restored to normal at the latest in from one to one and one-half hours after injection. Prolongation of elimination of bilirubin beyond one and one-half hours may be accepted as an index of insufficiency of function. The slight deviations noted before and at the apex of the curve are of no importance, as they are caused by contraction of the spleen and are dependent on its pigment content.

Presse Médicale, Paris

38: 249-264 (Feb. 19) 1930

*Hypertonic Solution of Sodium Chloride in Intestinal Obstruction. A. Gosset, L. Bint and D. Petit-Dutaillis.—p. 249.
Retention of Dead Fetus in Ectopic Gestation. R. Bernard.—p. 252.
Studies on Hermaphrodism. P. E. Morhardt.—p. 253.

Hypertonic Solution of Sodium Chloride in Intestinal Obstruction.—Gosset et al. point to the favorable effect of intravenous injections of solution of sodium chloride as accessory to surgical intervention in certain types of intestinal obstruction not complicated by torsion or strangulation of a part of the intestine. Such injections cannot cure patients with severe injury to the intestinal mucous membrane if gangrene has occurred and danger of peritonitis is imminent through secondary transudation of bacteria. However, they are indicated and have led to more rapid recovery and relief of distressing symptoms in many instances. The authors especially point out that favorable results have been obtained not only as reported in previous papers on obstruction of the small intestine but also in obstruction of the large intestine and in cases complicated by adhesions, which are often of postoperative origin. The injections are contraindicated in patients with kidney lesions or in those susceptible of such, as older persons. The injections of solution of sodium chloride should be given slowly and may be associated with subcutaneous injections of physiologic solution of sodium chloride.

Semana Médica, Buenos Aires

37: 385-448 (Feb. 13) 1930

Defense of Vivisection. R. B. Silva.—p. 385.
Tuberculosis in Early Childhood. G. A. Schiavone.—p. 388.
*Timely Operation in Hemorrhages Caused by Gastroduodenal Ulcers. G. Peco.—p. 429.
Physiology and Biology of Instincts of Nutrition. A. M. Sierra.—p. 433.
Sacral Eschar Caused by Toxic Neuritis Early in Puerperium: Treatment. A. Guiroy and A. Tigier.—p. 438.
Severe Pruritus Vulvae Cured with Insulin: Case. J. E. Pessano.—p. 441.

Timely Operation in Hemorrhages Caused by Gastroduodenal Ulcers.—Peco observed thirty-four cases of hemorrhage caused by gastric and duodenal ulcers, in seventeen of which the hemorrhages were profuse. The mortality among the entire group of thirty-four patients was 3 per cent; in the group of seventeen with grave hemorrhages, 6 per cent. The author advises medical treatment at the time of hemorrhage. After the first large hemorrhage disappears, if the symptoms suggest healing of the ulcers operation is not performed, with two exceptions: first, if the symptoms of ulcer reappear and, second, if the hemorrhage recurs. If the hemorrhage is of a persistent type and the patient is in good general condition, the intervention should be made without delay, preceded by transfusion. Operation is indicated also in patients with ulcer who have small and repeated or minimal and continuous hemorrhages, or when occult blood is constant. In bleeding ulcers the best treatment is resection, though its performance sometimes is not possible. In thirty-three cases the author was able to perform resection in only five instances. Ligation of the vessels along the borders of the ulcer and gastro-enterostomy do not stop the hemorrhages. The author considers that the ideal treatment should be immediate operation after a hemorrhage, followed by resection of the ulcer.

Archiv für klinische Chirurgie, Berlin

158: 287-542 (March 5) 1930

Acute Traumatic Bone Atrophy. C. T. Willich.—p. 287.
*Spontaneous Gangrene of Extremities in Young Adults. A. Stapf.—p. 297.
Technic of Sympathectomy on Nerves Supplying the Extremities. W. Rieder.—p. 355.
Intervertebral Cartilages: Blood Supply, the Intervertebral Notochord Segments and Relation of Both to Degeneration of Intervertebral Disks. R. Böhmig.—p. 374.
Adenomyoma of Stomach. B. Neumann.—p. 425.
Case of Rupture of Aneurysm of Vertebral Artery. W. Drügg and H. Siegmund.—p. 434.
Pathogenesis of Hydronephrosis. H. Boeminghaus.—p. 445.
*Conservative Abdominal Incisions. W. Noetzel.—p. 456.
Surgical Approach to Obturator Nerve. A. Wischnewsky.—p. 472.
*Large Solitary Cyst of Spleen. F. Dinand.—p. 485.
Results of Roentgen Irradiation in a Case of Pseudohermaphrodism Associated with Tumors of Suprarenals. E. Gold.—p. 500.
*Hereditary Predisposition to Hernia. W. Birkenfeld.—p. 509.
Treatment of Bilateral Nephrolithiasis. W. Rettig.—p. 533.

Spontaneous Gangrene of Extremities in Young Adults.—Juvenile, thrombosing angiosclerosis of the extremities is the term proposed by Stapf. No single cause can be assigned for the condition, but he is convinced that there must be an underlying constitutional weakness of the circulatory system. A racial factor can no longer be accepted as a cause, because many races now are found to be affected. He reviews all assigned causes, but cannot agree to the acceptance of any one of them as being of sufficient etiologic importance to be recognized as the exciting factor in the production of this disease.

Conservative Abdominal Incisions.—Besides conserving the nerve supply of the abdominal wall, Noetzel advises that: (*a*) above the umbilicus the white line should never be divided lengthwise, crosswise, diagonally or curvilinearly; (*b*) below the umbilicus the rectus muscle should never be divided crosswise. For operations on the gallbladder a short Courvoisier incision is to be employed, extending from above downward and outward, of the length of the second segment of the abdominal rectus muscle. For operations on the stomach he recommends Lennander's incision on the right side. For gynecologic operations, he prefers the Pfannenstiel incision but also uses the Lennander incision, and for difficult operations done for carcinoma of the uterus he employs the median incision. For removal of the appendix, only the McBurney incision should be made.

Large Solitary Cyst of Spleen.—The cyst in the case cited by Dinand weighed 3 Kg. and measured 23 by 17 by 10 cm. It contained a sanguinolent fluid and many small yellowish masses which were rich in cholesterol content. The patient had complained much of pain in the left side, but was otherwise quite well. The fear of some pulmonary disease led him to consult a physician, who made the correct diagnosis. The patient made a good recovery.

Hereditary Predisposition to Hernia.—Birkenfeld is firmly convinced that heredity plays a dominant rôle in the etiology of hernia; in fact, even the kind of hernia or variability as to kind are inherited factors. For instance, in one family only inguinal hernias may occur; in another umbilical hernias, and in a third, all varieties of hernias have occurred. Ten family charts are shown in which these characteristics are emphasized. Persons whose family tree shows a predisposition to hernia should be cautious in engaging in activities, sport and athletics which may cause a hernia. In persons with an evident hereditary predisposition to hernia who were subjected to a herniotomy, recurrence took place in 11 per cent; those without such hereditary predisposition showed only 4 per cent of recurrence.

Beiträge zur Klinik der Tuberkulose, Berlin

73: 263-398 (Jan. 23) 1930

*Pleural Adhesions: Examination in Transmitted Light. K. Heine.—p. 263.
*Indications for Phrenic Exeresis Alone and Combined with Pneumothorax. A. Sonnenfeld.—p. 268.
Pulmonary Tuberculosis in Old Persons. N. Nordmeyer.—p. 280.
Correlations of Tuberculous Focus and Blood Picture. E. A. Schnieder.—p. 289.
*Perifocal Blood Picture in Pulmonary Tuberculosis. T. Sternberg.—p. 311.
*Effect of Nonspecific Lipoid Treatment on Erythrocyte Sedimentation in Pulmonary Tuberculosis. E. Paulsen.—p. 319.
Artificial Immunization Against Tuberculosis. P. Kalós and E. Bajza.—p. 323.
Clinical Significance of Pathomorphologic Changes in Pulmonary Tuberculosis. W. Bronkhorst.—p. 325.
*Effect of Administration of Vitamins on Tuberculosis. W. Pfannenstiel and B. Scharlau.—p. 351.
Decrease in Tuberculosis Mortality in Denmark. K. Faber.—p. 373.
Similarity in Pathogenesis of Pulmonary Tuberculosis, Articular Rheumatism and Conditions Caused by Relative Vitamin Deficiency. L. Heumann.—p. 384.
Antagonistic Action of Silicosis and Tuberculosis. W. Mascher.—p. 388.

Pleural Adhesions: Examination in Transmitted Light.—Heine describes the technic of examination of pleural adhesions in transmitted light by means of one thoracoscope introduced to one side of the adhesion for illumination and another thoracoscope introduced to the opposite side of the adhesion for observation. He states that by means of this method of examination one may determine the contents of extensive, flat fan-shaped adhesions. If the adhesion cannot be transillumined, one should hesitate to divide it, because of the possibility that it contains lung tissue or masses of connective tissue, which would render complete division difficult. In the examination in transmitted light the thinnest and emptiest part of the adhesion may be determined, thus rendering possible its rapid division with the cautery. If there are any blood vessels or an extension of a cavity into the adhesion, they are rendered visible by the transmitted light.

Indications for Phrenic Exeresis Alone and Combined with Pneumothorax.—Sonnenfeld states that the indications for isolated phrenic exeresis have been extended to include cases of upper lobe tuberculosis. In all cases in which pneumothorax cannot be induced, exeresis alone should be tried because it frequently gives surprisingly good results. In bilateral processes in which the disease in one lung is limited to the lower lobe, a simultaneous treatment of this side with exeresis and of the other side with pneumothorax is recommended. The author emphasizes the fact that combined treatment of unilateral pulmonary tuberculosis by means of phrenic exeresis and pneumothorax does not render impossible successful collapse treatment of the other lung in the event of its subsequent involvement.

Perifocal Blood Picture in Pulmonary Tuberculosis.—According to Sternberg, examination of the perifocal blood picture is an important method of demonstrating changes in the blood. It aids in making a prognosis in tuberculous processes and in determining the effect of the treatment.

Effect of Nonspecific Lipoid Treatment on Erythrocyte Sedimentation in Pulmonary Tuberculosis.—On the basis of a study of the erythrocyte sedimentation in twenty-three cases of fibrous productive tuberculosis and ten cases of exudative tuberculosis, in all of which nonspecific lipoid treatment had been used for almost six months, Paulsen states that one is justified in concluding that the formation of lipoid antibodies has a direct effect on the erythrocyte sedimentation and brings about corresponding changes in the suspension conditions in the blood plasma.

Effect of Administration of Vitamins on Tuberculosis.—In experiments on rabbits with tuberculosis, Pfannenstiel and Scharlau did not note any improvement following the administration of vitamins A, B and D singly. By the simultaneous peroral administration of vitamin B (yeast) and vitamin D (viosterol), however, it was possible not only to increase the bactericidal power of the blood serum but to influence the tuberculosis favorably. Rabbits receiving both vitamins did not develop tuberculosis following a weak infection and other rabbits with severe tuberculosis showed a marked tendency to recover when given both yeast and viosterol. The therapeutic action of vitamins B and D was not increased by the additional administration of vitamin A (cod liver oil). On the basis of their experimental observations, the authors believe that the administration of yeast and viosterol may prove of value in stimulating healing processes in tuberculosis in human beings.

Deutsche medizinische Wochenschrift, Berlin

56: 379-424 (March 7) 1930

Treatment of Ozena. Denker.—p. 379.
*Intravenous Injection of Hormone of Posterior Lobe of Hypophysis for Diagnosis of Early Pregnancy. H. Küstner.—p. 384.
Development of Syndrome of Exophthalmic Goiter with Special Consideration of Influence of Hormone of Thyroid on Circulation of Blood. H. Zondek.—p. 385. C'en.
Diphtheria Epidemic in a Spa. W. Silberschmidt.—p. 387.
Principles and Results of Diphtheria Vaccination. E. Friedberger.—p. 389. C'en.
*Sodium Bicarbonate Tolerance Test for Detection of Functional Activity of Kidney. A. Brock and H. Cohen.—p. 393.
Treatment of Surgical Tuberculosis. H. Kuss.—p. 395.
Dilute Solution of Iodized Sesame Oil in Treatment of Syphilis. T. Grüneberg.—p. 396.

Injection of Hormone of Posterior Lobe of Hypophysis for Diagnosis of Early Pregnancy.—Küstner points out that the differential diagnosis between early pregnancy and certain genital disorders is sometimes difficult. Extra-uterine pregnancy, the enlargement of the uterus in amenorrhea and corpus luteum cysts are conditions that frequently present the aspects of pregnancy. The author describes a method by which it is possible to differentiate such conditions from true pregnancy. Into the arm vein he injects 0.5 cc. of an extract of the hormone of the posterior lobe of the hypophysis. The injection should be made slowly in order to prevent, or at least to reduce, the collapse manifestations in the muscular apparatus of the vessels. For women with cardiac disorders the author advises the injection of from 10 to 15 cc. of a 25 per cent solution of dextrose to which 0.5 cc. of the hormonal extract has been added. If this is done, the shock is less violent; however, the desired effect, namely, contraction of the uterus, becomes manifest. Immediately after the injection the bimanual palpation that had been performed before the injection is repeated. In case of pregnancy the palpated enlargement becomes harder, whereas if pregnancy does not exist the tumor retains the same soft consistency. During the time when the muscles of the gravid uterus become contracted, the patient usually loses consciousness and her face becomes pale. However, the normal condition is quickly restored and several minutes later she can return home without danger of further complications. This method was successfully employed in numerous cases. In answer to the question whether the injection of the hormonal extract and the following strong contraction of the uterus may endanger the normal progress of pregnancy, the author states that he never observed the slightest disturbances. The contraction after the injection is not followed by further labor pains, and even if the circulation of the uterus is temporarily interrupted, it is not harmful for the fetus. The author observed that an interruption of the oxygen supply is more easily endured by the fetus than by an infant during or after birth.

Sodium Bicarbonate Tolerance Test for Detection of Functional Activity of Kidney.—Brock and Cohen mention several other investigators who employed the sodium bicarbonate tolerance test for examining the functional activity of the kidney. Most of them, however, gave comparatively large quantities of sodium bicarbonate, namely 20 Gm. in 400 cc. of water. These large quantities often caused complications, such as nausea, vomiting and diarrhea. After employing this technic in a number of cases, the authors attempted to change the technic by giving only 10 Gm. of sodium bicarbonate in 300 cc. of water. The hydrogen ion concentration of the urine was determined before the test and at half hour intervals following the ingestion of sodium bicarbonate. The authors employed this technic in forty persons and nearly the same results were obtained as when 20 Gm. was given. In patients with renal insufficiency and in those with cardiac decompensation, the tolerance test showed different results than in normal persons. Only five out of the

forty persons developed nausea and vomiting as a result of the ingestion of sodium bicarbonate. This is a considerably lower percentage than the percentages observed when larger doses are given. If this test is employed in cases of severe diabetes with acidosis, it is often possible to demonstrate a cardiorenal insufficiency. This sodium bicarbonate tolerance test, which requires a comparatively short time, may, to a certain degree, replace the concentration test.

Klinische Wochenschrift, Berlin

9: 385-432 (March 1) 1930

Development of Gastric Ulcer (Gastropathy). L. Moszkowicz.—p. 385.
*Raw Diet: Experiments to Determine Portion of Food Actually Used by Organism. A. Loewy and W. Behrens.—p. 390.
Hormones of Anterior Lobe of Hypophysis. B. Zondek.—p. 393.
Alimentary Hyperglycemia in Dogs with Eck's Fistula. M. Loeweneck and W. Wachsmuth.—p. 396.
*Influence of Posture on Tachycardia Caused by Nervous Disorders or by Hyperthyroidism. G. Dell'Acqua and B. Aschner.—p. 397.
Thomsen's "New Blood Groups." A. Lauer.—p. 398.
Significance of Hypophysis for Metabolism. H. Bernhardt.—p. 399.
New Preparation of Sarsaparilla Root for Treatment of Renal Disturbances. R. Rittmann and F. Schneider.—p. 401.
Raw Apple Diet for Treatment of Diarrheal Conditions in Children and in Adults. A. Heisler.—p. 408.
Idem. J. H. F. Kohlbrugge.—p. 408.
Idem. E. Moro.—p. 409.

Raw Diet: Experiments to Determine Portion of Food Actually Used by Organism.—Loewy and Behrens point out that although raw diets are of therapeutic value in certain gastro-intestinal disorders, in renal diseases, in hypertension, in diabetes, in gout, in some forms of obesity and in many skin diseases, they are not, however, to be considered the normal diets for healthy persons. It has been found that an addition of cooked foods is necessary for most persons. The authors made experiments to determine the portion of food actually used by the organism when raw diets are given. They found that in persons who had been accustomed to raw diets, and who had free choice as to quantity and selection of raw foods, the amounts of foods that were eaten were not sufficient to supply the requirements of the body. Either the quantity in itself was too small or the food was not utilized completely by the organism. The caloric value of the feces was in most instances extraordinarily high, and the protein metabolism was usually abnormally low.

Influence of Posture on Tachycardia Caused by Nervous Disorders or by Hyperthyroidism.—Dell'Acqua and Aschner state that in some persons the pulse rate varies whenever the posture is changed. Some authors consider this a characteristic symptom of hyperthyroidism, whereas others assert that the greatest differences in the frequency of the pulse are noted in neurotic persons. In order to investigate this problem the authors made careful tests on 137 persons with hyperthyroidism, on seventy-three neurotic patients and on nine persons who had both hyperthyroidism and neurosis. In all these persons the pulse rate was tested in the standing and in the recumbent position. The tests were repeated several times, and all psychic influences were eliminated as much as possible. Besides the frequency of the pulse the authors investigated Erben's phenomenon, Aschner's phenomenon and the respiratory arrhythmia. In most persons with hyperthyroidism the pulse was slightly more rapid when they were standing than when they were recumbent. In other cases of hyperthyroidism the rate was the same in either position, and in some instances it was even increased when the person was reclining. However, in patients with neurosis the pulse showed a much greater frequency when the persons were standing than when they were lying down. In none of the neurotic persons did the pulse rate remain the same when the posture was changed, and in only one out of seventy-three was it slightly increased while the person was lying down. Of the nine persons in whom hyperthyroidism concurred with neurosis, two had the same pulse rate in either position, whereas in the others it was greater when standing. In determining the average pulse rate differences between the standing and the reclining posture, it was found that in cases of hyperthyroidism it was 4.82, whereas in neurotic persons it was more than five times as large, namely, 25.3.

Münchener medizinische Wochenschrift, Munich

77: 389-428 (March 7) 1930

Rôle of Human Uterus as Mesodermic Digestive Organ. P. Caffier.—p. 389.
*Roentgen Therapy of Actinomycosis of Female Genitalia. H. Martius.—p. 392.
*Clinical Aspects of Actinomycosis of Female Genitalia. P. Schugt.—p. 394.
*Arrest of Hemorrhage by Means of Congo Red. J. Becker.—p. 396.
Medicinal Value of Huckleberry Wine. F. Flury.—p. 397.
Energy Requirements and Shock Effects in Riding on Bicycles with Balloon Tires or with Cord Tires. W. Kohlrausch.—p. 399.
Behavior of Human Spermatozoa Toward Dyes: Significance for Estimation of Male Sterility. A. Sack and R. Amersbach.—p. 400.
Observations on Psittacosis. A. Krumeich.—p. 401.
Massage of Pharyngeal Tonsils. Pfleiderer.—p. 403.
Giemsa-Benzidine Test: Simplification of Demonstration of Oxydase in Blood. S. Moschkowski.—p. 403.
Simple Intestinal Irrigator. W. Ortloph.—p. 404.
Indications for Operative Treatment of Phimosis in Children. K. Ochsenius.—p. 404.
Significance of Placental Blood for Maintaining of Heart Action in the New-Born. Durlacher.—p. 404.

Roentgen Therapy of Actinomycosis of Female Genitalia.—Martius describes a woman, aged 54, who had been diagnosed as having a malignant growth in the abdominal cavity. An operation with subsequent microscopic examination of the specimen revealed *Actinomyces*, and the case was diagnosed as genital actinomycosis. Roentgen treatment was instituted. The author describes the technic of the treatment, which was given in three series. During the first series of roentgen treatments the woman was given intravenous injections of iodo-oxybenzene pyridine sulphonate. During the five week interval between the first and second series of the radiation treatments, the patient was given potassium iodide. A third series of roentgen treatments was given several months later. An after-examination about one year after the beginning of the treatment revealed that the actinomycosis had completely disappeared. The author thinks that the recovery was mainly due to the effects of the roentgen therapy. He emphasizes that only small doses should be given.

Clinical Aspects of Actinomycosis of Female Genitalia.—According to Schugt, *Actinomyces* produces in the human organism inflammatory granulation tissue that, by its disintegration, destroys normal tissues. This pathologic process has almost malignant characteristics. The author points out that *Actinomyces* sometimes affects the female genitalia. The diagnosis is based on the bacteriologic demonstration of *Actinomyces*. However, *Actinomyces* may exist even if the bacteriologic examination gives negative results. The author states that an actinomycosis should be considered possible in cases of inflammatory disorders of the genitalia in which the process is progressive in spite of conservative or surgical treatments. Cases of actinomycosis of the female genitalia that are reported in the literature indicate that the prognosis is usually unfavorable. Concerning the therapy, the author states that unless the correct diagnosis is made early, the surgical treatment is not successful. Of the various medicinal treatments the author mentions the oral administration of potassium iodide and the local application of tincture of iodine, copper sulphate or corrosive mercuric chloride. Protein therapy, and vaccine therapy as well as hydrotherapeutic measures have also been employed. However, the results of these treatments were not entirely satisfactory. Roentgen therapy has proved effective in some instances. The author gives a detailed report of one case. The cause of the infection could not be definitely determined. It is assumed that it began after an abortion or that the genital infection was secondary and was caused by a primary infection of the gastro-intestinal tract. Various therapeutic methods were employed, and it appears that the administration of small doses of roentgen rays brought the most favorable results. The author points out, however, that if roentgen treatment is employed, it cannot always be definitely stated what is due to its influence and what is spontaneous recovery. It should also be considered that in women during the childbearing period, roentgen therapy of the genitalia is contraindicated on account of injurious effects on the offspring.

Arrest of Hemorrhage by Means of Congo Red.—Experiments on animals have convinced Becker that injections of neutral dye solutions effect changes in the coagulation of the blood. He therefore gave patients with hemorrhages of varied etiology intravenous injections of 10 cc. of a 1 per cent solution of chemically inactive congo red. As a result, the time required for coagulation was markedly reduced and the number of thrombocytes was increased. Complications did not develop. The author concludes that congo red is helpful as a hemostatic.

Wiener klinische Wochenschrift, Vienna

43: 289-320 (March 6) 1930

Significance of Islands of Langerhans in Forced Feeding and in Obesity. W. Falta.—p. 289.
Pure Cultivation of Tubercle Bacilli from the Blood. E. Loewenstein and Russeff.—p. 294.
Icterus Gravis (Acute Yellow Atrophy of Liver), Oliguria and Pulmonary Edema. L. Hess.—p. 294. C'td.
*Electrocardiographic Sign in Pericardial Effusion. D. Scherf.—p. 298.
Attempts at Immunization by Means of Löwenstein's Diphtheria Ointment During Diphtheria Epidemic. R. Jakopp and A. Streit.—p. 300.
Cat Scabies in Man: Experimental Investigations. A. Philadelphy and O. Grimm.—p. 302.

Electrocardiographic Sign in Pericardial Effusion.—Scherf noted that in cases of a pericardial effusion the electrocardiogram shows certain changes. The P and T deflections are low or disappear and the main deflection is smaller. A pericardial effusion that is under high pressure may also cause a negative T deflection and a curved, negative S-T interval. Experiments on the hearts of dogs in situ showed results that confirmed the clinical observations.

Zentralblatt für Chirurgie, Leipzig

57: 641-704 (March 15) 1930

Abscess in Douglas Culdesac of Appendical Origin, Accompanied by Extensive Parametrial Infiltration. A. W. Meyer.—p. 643.
The Surgical Saw. H. Hadenfeldt.—p. 645.
Cystic Intestinal Pneumatosis Associated with Stenosis of Pylorus of High Degree. A. Burhaneddin.—p. 647.
*Inguinal Herniotomy: New Way of Disposing of Sac. F. Schewket.—p. 649.
*Hemorrhoidectomy: A New Method. F. Szarvas.—p. 650.
Indications for Appendectomy. J. Jungbluth.—p. 653.
*Drainage Tube Left in Choledochus Five and a Half Years. S. P. Fedoroff.—p. 657.

Modification of Inguinal Herniotomy.—An experience with 200 inguinal herniotomies has convinced Schewket that it is not necessary to excise the hernial sac. He frees the sac at the neck from the surrounding tissues, divides it transversely and then slits the fundus of the sac upward and lays it wide open so that the interior is thoroughly exposed. This portion of the sac is not removed. It is left "face up" in the wound and the operation is completed in the usual manner. He has never seen any bad consequences follow on this procedure.

Operation for Hemorrhoids.—Szarvas describes a new surgical procedure which he believes overcomes the objections raised to every other form of surgical treatment. He raises a skin and connective tissue flap from that side of the rectum on which the hemorrhoidal nodes are situated. The wall of the rectum is not cut. The nodes are pushed out into the field of operation from the lumen of the bowel and are then ligated by means of a catgut suture but not cut off. When all the nodes have been ligated, the skin flap is dropped back into place and sutured. It is important to check all bleeding points. He asserts that the operation can be performed in a very few minutes; it is simple, safe and not followed by pain. The patient needs to be kept in bed for only three days. The bowels are evacuated normally on the fourth day.

Retention of Rubber Drainage Tube in Choledochus.—In May, Fedoroff operated on a man for cholecystitis, removing the gallbladder, which did not, however, contain stones. The common duct, on the other hand, contained about twelve. These were removed and a rubber drainage tube à la Kerr was inserted. Seventeen days after the operation the stem of the drain was discharged into the dressing, the horizontal part or arm remaining in the choledochus. The author says that this is the first time that he had had such an accident in more than 500 similar operations. Nothing further was done. The patient recovered and remained well until October, when he suddenly had a colic, with some jaundice and slight elevation of temperature. He recovered from this attack and remained well for two and a half years, when a series of similar attacks began. Roentgenograms always showed the drainage tube in situ but nearer to the duodenum. Finally, in November, 1929, his symptoms had become so aggravated that a laparotomy was performed and the tube was removed from the choledochus. The patient made a complete recovery and has been well since this operation.

Odessky Meditsinsky Jurnal, Odessa

4: 415-628, 1929. Partial Index

*New Combined Method of Light Treatment in Lupus Vulgaris. J. A. Matusis.—p. 429.
Pemphigus Vulgaris. I. A. Matusis and N. E. Glekler.—p. 440.
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Etiology of Granuloma Annulare. S. Z. Yuchnevitch.—p. 461.
Parapsoriasis en Plaques: Case. A. N. Pavlov and A. M. Fayngold.—p. 465.
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Gonorrheal Urethritis in Patient with Urethral Stricture. L. R. Leytes and G. J. Levin.—p. 480.
Pathogenesis of Recklinghausen's Disease. A. A. Feldman and E. S. Oretchkin.—p. 483.
Hybrid Forms of Syphilis and Tuberculosis. A. M. Shtark.—p. 501.
Treatment of Ringworm with Ultraviolet Rays. N. S. Efron.—p. 503.
Influence of Extract from Skeletal Muscle in Angina Pectoris and Hypodynamia. Y. S. Shwartzman.—p. 527.
Factors Influencing Arterial Blood Pressure. A. I. Gruzin.—p. 529.

New Combined Method of Light Treatment in Lupus Vulgaris.—Matusis reports a new method of administering ultraviolet rays in cases of lupus vulgaris. He emphasizes the fact that in grave cases the treatment of the disease with Kromayer's lamp alone does not give satisfactory results, whereas even in less serious cases a long time is required. Treatment with Finsen's lamp is expensive and is not practical except in large cities. Matusis applied his method of combined treatment with Kromayer's and Bach's lamps and obtained excellent results in sixty-seven cases, with clinical recovery in 79 per cent and complete recovery in 18 per cent.

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Changes in Liver and Bile Ducts After Removal of Gallbladder.—Troitzkiy removed the gallbladder of seven dogs and examined the liver microscopically. Four months after the operation a chronic inflammation was present. The bile ducts were dilated but there was no evidence of any tendency to form a new gallbladder.

Changes in Erythrocytes Caused by Heliotherapy.—Lapteva-Popova made a study of twenty-five persons, four of whom were well and the remainder of whom had tuberculosis of the bones. From her observation she concludes that heliotherapy increases the number of erythrocytes and reticulocytes, and decreases the amount of hemoglobin. The increase of erythrocytes continues, but after a period of rest the hemoglobin content increases. The author asserts that heliotherapy has a beneficial action on the entire organism.